DOCUMENT RESUME

ED 186 537 UD 020 510

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TITLE Emergency School Aid Act Pilot Project, Final Project Report, 1978-79.
INSTITUTION Atlanta Public Schools, Ga.
SPONS AGENCY Office of Education (DHEW), Washington, D.C.
PUB DATE [79]
NOTE 112p.; Not available in paper copy due to reproduction quality of original document.

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Academic Achievement; Curriculum; *Educationally Disadvantaged; *Elementary School Mathematics; Elementary Secondary Education; *English (Second Language); Instructional Materials; Learning Activities; *Non English Speaking; Program Evaluation; Teacher Attitudes
IDENTIFIERS Emergency School Aid Act 1972; Georgia (Atlanta)

ABSTRACT

Two Emergency School Aid Act pilot programs were conducted by the Atlanta Public Schools: Cultural Adjustment and Special Mathematics. The purpose of the Cultural Adjustment program was to reduce isolation and educational problems related to non-English speaking pupils and pupils who have first language interference. Program evaluation conclusions reported that: students studying English as a second language increased their proficiency in English usage; pupils studying Spanish as a native language increased their levels of skills in Spanish usage; special services were provided to improve levels of interaction between parents of immigrant students and the school; and the pupils were involved in varied activities designed to promote social adjustment and assist academic functioning. The Special Mathematics program sought to improve mathematics achievement of elementary pupils through a program in which students, parents, and school personnel could work cooperatively. The basic curriculum was the Curriculum Development Associates (CDA) Mathematics Program. Program evaluation concluded that: most pupils showed a loss in age achievement quotient after having used the CDA program; pupils made gains in self concept as learners; and teachers did not feel committed to the program, were not fully implementing it, and half the time used other teaching materials. Learning activities, behavioral objectives, and data tables are included. Cultural Adjustment program materials are appended. (Author/MK)

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EMERGENCY SCHOOL AID ACT

PILOT PROJECT

FINAL PROJECT REPORT

1978-79

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RESEARCH, EVALUATION, AND DATA PROCESSING

ATLANTA PUBLIC SCHOOLS

ATLANTA, GEORGIA

Report No. 13-4.2/80

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EMERGENCY SCHOOL AID ACT
PILOT PROJECT

A FINAL PROJECT REPORT
1978-79

Submitted to the Office of Education
Department of Health, Education, and Welfare

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INTRODUCTION

The Atlanta Public Schools received a grant in the amount of $305,038 for the operation of a pilot project under the Emergency School Aid Act (ESAA) for the 1978-79 school year. An allocation of $120,667 was made to fund the ESAA Cultural Adjustment Program. This project extended the services provided through general funds for non-English-speaking pupils and pupils with first language interferences. It also provided special services for native Spanish-speaking pupils.

Population Benefited From Assistance

This project was designed to serve pupils whose dominant language was not English. One hundred thirty-two nationalities were represented. Of these pupils, 83 were pupils whose native language was Spanish. Table 1.1 shows the number of non-English-speaking pupils, as indicated by the pupils themselves, of foreign descent who were served by the project.

TABLE 1.1

NUMBER OF STUDENTS FROM NONDOMINANT ENGLISH-SPEAKING COUNTRIES

Nation	Number of Pupils
Albania	1
Canada (French)	1
Chile	1
China	6
Costa Rica	2
Cuba	10
Egypt	1
France	2
Greece	5
Guatemala	2
Honduras	3
India	7
Iran	1
Korea	4
Mexico	23
Peru	1
Philippines	1
Puerto Rico	4
Spain	37
Turkey	1
Venezuela	1
Vietnam	18
Total	132

Achievement of Objectives

In prior years before the advent of the ESAA Pilot, Part I (Cultural Adjustment) grant, non-English speaking pupils, or those with first language interference, had been assigned to regular classrooms, and limited opportunities were provided for instruction in English usage. Further, very limited experiences were provided to enable pupils to maintain their cultural heritage. These factors compounded problems (peer isolation and educational achievement) stemming from communication barriers and lack of understanding of cultural differences.

Based on these facts, the major purpose of the ESAA Pilot Project, Cultural Adjustment was to reduce isolation and educational problems related to non-English-speaking pupils and those pupils who have first language interference. Thus, the project proposed to provide many and varied experiences to foster understanding of varying cultures, particularly American and the cultures represented by the immigrant pupils. Further, the project proposed to enrich and extend existing services designed for the development and improvement of English language skills of these pupils.

During the 1978-79 project year, the Cultural Adjustment Program was located in one elementary school, one middle school, and two high schools. Further intercultural communications classes were held in six other schools with over 800 pupils participating.

Toward the accomplishment of the overall goal, specific objectives and activities were designed. The objectives, related activities, evaluation methods, and findings which report actual accomplishments and reasons for slippage in outcomes were as follows.

Objective 1-- English Usage

At the conclusion of the 1977-78 school year, pupils studying English as a second language in the ESAA Pilot Cultural Adjustment project will exhibit one month's gain in English usage (reading, vocabulary, grammar, and comprehension) per two months of instruction as measured by the Iowa Tests of Basic Skills (ITBS).

Activities

A project room was established for the overall ESAA Pilot, Cultural Adjustment project. Working from this project room, project activities and staff development activities were coordinated. Materials such as films, tapes, programmed lessons, and books geared to meet the needs of the pupils were furnished through the project room to the schools serving the project pupils. Photographic services were extended to teachers from this project room. The project room served as a core for the project system wide.

In one school with a high concentration of non-English-speaking pupils, a resource room was established and an English to Speakers of Other Languages (ESOL) teacher was assigned to provide instruction. In other schools with too few pupils to merit a full-time ESOL teacher, the teacher divided her time among project schools. Again, this project extended regular budget services which operated basically under the same structure as the project.

In either instance, whether part time or full time, the ESOL teacher served as a resource to the regular instructional program. Pupils were cycled into instructional groups for varying periods of time during the regular day. The sizes of the groups varied according to the number of immigrant pupils in the school

and their age levels. It was most common for pupils who spoke different languages to be in the same group. This was considered an advantage since: (1) the grouping arrangement permitted the pupils to observe the similarities and differences in languages in addition to broadening understanding of varying cultures and (2) the ESOL teachers, while not being able to speak every language, did possess a practitioner's knowledge of the disciplines taught and an understanding of the importance of each culture represented.

A wide variety of activities was provided to:

1. Introduce various ethnic customs and ideas to the student body through mini-units prepared with the help of foreign members of school and community.

2. Offer newly arrived foreign pupils and their families a unique opportunity to actively participate in class projects, contributing their cultural heritage and experiences.

3. Enrich social studies programs with original artifacts and firsthand input by "teachers" who come from many of the countries being studied.

4. Involve total class or groups of children in learning centers that encourage participation in different cultural projects.

5. Utilize human resources in school and community to familiarize school with many cultures presented therein through meaningful programs.

6. Instill new sense of pride in American children as they compare and contrast their own heritage with that of their new friends through discussions, programs, learning activities, arts and crafts projects, field trips, etc.

7. Help the newly arrived foreign pupils and their families feel that they are a very real and important part of their new school community by asking them to share their culture with student body and faculty.

8. Present a unit on communication. Children brought in foreign language publications (magazines and newspapers) to supplement a unit on communication. Magazines were compared and contrasted with Atlanta ones, with the help of built-in translators and commentators. (Focus was placed on format, content, tone, language used, slant on information printed, etc.).

In the area of community services, the following are examples of activities which took place throughout the year:

1. ESOL teachers transported pupils to physicians and dentists for appointments.

2. Teachers transported students to government offices to apply for citizenship and to agencies and businesses to secure summer jobs.

3. Cultural Adjustment teachers helped parents with imigration papers, with problems relating to food stamps, and with finding help for parents during illness of the parents and children.

4. Consultations were held with parents concerning pupil's school attendance.

5. A teacher for a homebound pupil was secured, and the ESOL teacher consulted with the parents frequently.

6. Pupils were helped in a variety of ways:

   a. A Vietnamese pupil was taken to purchase necessary school items.

   b. Two Vietnamese students were taken to a Lunar Year celebration.

   c. A Vietnamese pupil was taken to the bakery to purchase a wedding cake.

   d. A Chinese couple was aided in moving by calling moving companies, lawyers, utility companies, and apartment owners.

   e. Pupils were taken to ice skating rinks, planetaria, local colleges, and the Atlanta Symphony.

   f. A teacher explained to the mothers of preschoolers the Title XX day care program in the school.

   g. A teacher served as an interpreter and a mediator for parents and principal concerned over the students' safety en route to school.

   h. The Cultural Adjustment teacher coordinated a telephone conference which was held with the parents and the teachers of some of the children.

   i. A teacher attended a panel discussion on "The People of Mexico: Images and Reality."

   j. A teacher was a host at a reception and dinner for new, foreign students from 35 different countries. This was done as a member of the Atlanta Council for International Visitors International Student Liaison Committee.

   k. A teacher served as an interpreter for a parent who was preparing a Mexican meal for her son's fifth grade class.

Specific activities to yield the desired learning experiences included the following:

1. Utilizing the talents and interests of the Cultural Adjustment pupils and their families, a wide variety of activities was able to be planned during the year. For example, pupils and parents from several language groups taught songs to other pupils. In addition, national costumes were provided by a variety of groups to enable pupils to compare and contrast the costumes.

2. On several occasions, pupils and parents prepared a national meal for people of other nationalities to share. An international lunch was held at several schools to enable pupils to compare foods and discuss topics of interest.

3. An intercultural fair was held which involved parents, pupils, and community leaders from all schools.

4. During the year, several schools held intercultural exhibits at which national dances and music were presented by several groups.

5. An international Christmas tree was decorated. Each class picked a culture to represent, and appropriate decorations were made.

6. Films, filmstrips, and a variety of books were utilized to broaden pupils' understanding of their own and other classmates heritage whether it be foreign or American.

7. Field trips were planned and pupils were taken to a variety of locations to enable students to have a wide variety of sources from which to learn.

Intercultural communication workshops for native and foreign students were held for sixth, seventh, and eighth grade students at Home Park, Inman, Oglethorpe, and Garden Hills elementary schools; O'Keefe Middle School; and Therrell High School. The main objectives of the program were:

1. To provide a program that will encourage an empathic attitude towards persons of different cultural backgrounds and thus enhance communication effectiveness.

   a. To provide opportunities and activities that will encourage an understanding of cultural factors as they influence interpersonal relationships.

   b. To provide opportunities in which the participants will really get the feeling of what it is like for persons to be in a classroom where the language spoken is one other than their own.

   c. To provide opportunities in which the participants will understand the adjustments needed to face culture change.

2. To provide a program that will encourage the development of self-awareness and self-acceptance. This will be done through the use of the Transactional Analysis Model, Johari Window, and Sidney Simon's humanistic approach activities. The focus will be on the importance of and the understanding that a positive self-esteem is a universal good sought by all.

3. To provide a program that will aid in cross-cultural understanding and acceptance.

   a. To provide opportunities that will help the non-native participants learn about and understand the U. S. culture and thus aid in the enculturation process.

b. To provide opportunities that will help native participants learn about and understand the other cultures represented in the school.

4. To provide a plan that will encourage an understanding that "being human" is the common denominator to all individuals from all cultures, and that this understanding can help bridge the gap between cultural differences.

   a. To provide experiences that emphasize that feelings are universal.

   b. To provide experiences in which intercultural interchange, communication, and understanding create the idea of world citizen consciousness.

Test Results

Upon enrollment in the ESOL activities, each pupil was given a diagnostic test to determine mastery of English usage skills. Also, after the completion of a given level, a posttest in English usage was administered. The data in Table 1.2 show the pretest and the posttest per cent of correct responses for each test administered. These data show that at each level the pupils performed at a greater level of proficiency on the posttest than on the pretest.

TABLE 1.2

PARTICIPANTS IN ENGLISH TO SPEAKERS OF OTHER LANGUAGES ACTIVITY PRETEST AND POSTTEST SCORES
1978-79

Test	Number of Pupils	Per Cent of Correct Responses	
		Pre	Post
Audio-Lingual			
Elementary Schools	16	77.6	87.2
Elementary English			
Elementary Schools	6	79.3	92.0
Secondary English			
Middle School	1	45.3	84.3
High School	10	33.4	56.7

The pupils studying English usage developed more proficient English usage skills.

The ITBS was administered to immigrant pupils who could read English well enough to take the test. Because of the varying levels of the pupils, instead of

using grade levels, age levels were used for comparison purposes. Consequently, an age achievement quotient (AAQ) was used. AAQ is a comparison of the pupil's test performance with the performance of children of his age level. Therefore, rather than gain in months (as indicated in the objective), gain in AAQ was computed.

The data shown in Table 1.3 show the performance of project participants whose English usage facility was sufficient to enable them to take the ITBS. These data show that 60 per cent of the participants who took the test showed a gain of approximately nine points in AAQ.

TABLE 1.3

GAINS IN READING AGE ACHIEVEMENT QUOTIENT (AAQ)
FOR NON-ENGLISH-SPEAKING PUPILS

School	Number of Pupils	AAQ 1978	AAQ 1979	Gain	Positive Gain in AAQ: Number of Pupils	Positive Gain in AAQ: Gain
Elementary						
Inman	12	94	96	2	6	9
Middle						
O'Keefe	3	77	85	8	3	8
Total	15	90	94	4	9*	9

*Sixty per cent of non-English-speaking pupils who took the test.

AAQ is the ratio of actual performance to the norm. Therefore, for the AAQ to remain constant, the pupil must make a month-for-month gain. While the gain is not shown by months, the gain in AAQ indicates that 60 per cent of the participants exceeded the objective of a one-month gain for each two months of instruction as verified by the fact that the average gain in AAQ for nine participants was nine points. While all participants did not obtain the objective, the success of the project is supported by the fact that 60 per cent of the participants who took the test, despite language barriers, exceeded the objective.

Objective 2 -- Spanish Skills

At the conclusion of the 1977-78 school year, pupils studying Spanish as a native language in the ESAA Pilot, Part I (Cultural Adjustment) project, will exhibit a 25 per cent increase in Spanish usage as measured by the Spanish Language Placement Test.

Activities

Many activities were provided for native Spanish-speaking pupils in an effort to develop and/or motivate an awareness of Hispanic culture.

The fact that the largest portion of the immigrant pupil population was Spanish-speaking was the basis for providing instruction in Spanish usage. Activities centered around teaching Spanish usage skills as a cultural aspect.

Classes were scheduled for approximately 30 minutes per day. The diagnostic-prescriptive methodology was used. Each pupil was given a diagnostic inventory in Spanish to determine his level of usage in the areas of reading, vocabulary, grammar, and comprehension. A prescription for instruction was then formulated and implemented by the teacher of Spanish to Spanish.

Test Results

The diagnostic test was used to measure mastery of Spanish usage skills. This test did not yield grade equivalent. Consequently, the objective of one-half month's gain per month of instruction was not assessed per se. The performance of pupils was assessed in terms of increase in level of mastery of skills. (See Table 1.4.) At each level, elementary, middle, and high school, the data show that pupils performed higher on the posttest than on the pretest. The increase made by each group in the per cent of correct responses indicates substantial growth in mastery of Spanish usage skills which leads to the assumption that the equivalence of the objective was met.

TABLE 1.4

SPANISH TO SPANISH-SPEAKING PUPILS
PRETEST AND POSTTEST SCORES
1978-79

Schools	Number of Pupils	Per Cent of Correct Responses	
		Pre	Post
Elementary	5	55.2	71.5
Middle	6	22.5	37.3
High	14	37.2	76.2

Social Adjustment

One underlying goal of the ESAA Pilot, Part I (Cultural Adjustment) project was to provide services for immigrant pupils which would aid them in making appropriate adjustments in schools whose pupils are predominantly English speaking. Toward this goal, activities were designed to provide materials and methods for instructional improvement, to enhance the understanding of cultures, to provide some social services for parents of these pupils, and to facilitate community involvement.

Toward this end, a project resource room was established to provide in-service training for teachers of immigrant children and to provide them with materials needed for instruction.

Through the resource room, instructional assistance was also provided to teachers in schools with isolated cases of immigrant pupils. Further, the project staff served the community, in many instances, as interpreters in securing needed social services and providing opportunities for exchange of cultures within the community.

The value of this project can also be assessed by the fact that fewer incidents of disruptive behavior occurred involving immigrant pupils in that there was a reduction in isolation, and the pupils and their parents received special help with language problems. Opportunities for them to display their cultural heritage were provided in the schools. Also, regular teachers indicated that having a teacher possessing special skills to work with non-English-speaking pupils and who could also serve, in many instances, as an interpreter during parent-teacher and teacher-pupil conferences was very beneficial to pupils' progress in the school.

Staff Development

Teacher training was another important adjunct to the overall project. Teacher training activities were based on the rationale that the teacher of immigrant pupils must be: (1) thoroughly familiar with the language skills which were to be taught, (2) aware of the pupil and his culture, (3) able to set definite goals, and (4) thoroughly knowledgeable of materials available and how to use them effectively. Workshops were held on topics such as diagnostic testing and prescriptive teaching, linguistic and cultural exceptionality among children, and techniques of achieving cross-cultural understanding. One workshop dealt with familiarizing personnel with linguistic and cultural problems encounted by pupils from other countries which hamper pupils' adjustment in a new culture.

Personnel from the Reading Center presented a workshop to provide teachers with various methods to teach reading to pupils with first language interference.

Creation of teaching/learning materials and visual aides was the topic of one workshop. Teachers were involved in production of specific learning materials during this session.

Additional staff development workshops were held on such topics as: Instructional Reinforcement Games, Theory and Practice of Test Construction, Effective Parent-Community Involvement, and Effective Volunteer Usage.

The project resource room served as a center for the sorting, developing, and disseminating materials and supplies. The course descriptions are in Appendix A. Further, in-service activities included working with consultants whose experiences were shared to meet specific staff needs. The additional included materials which have recently been purchased and are available for use in the program are listed in Appendix B.

CONCLUSIONS

Based on the success of the activities as indicated by the reactions of the staff, teacher, and parents and the performance of the pupils, the following conclusions were drawn:

1. The service provided through ESAA Pilot, Part I (Cultural Adjustment) project served a definite need of the School System by further extention of existing

services to immigrant pupils. The pupils were involved in varied activities designed to promote social adjustment and to assist them in functioning academically in their English-speaking classroom situations.

2. Pupils studying English as a second language increased their proficiency in English usage skills.

3. Pupils studying Spanish as a native language increased their levels of skills in Spanish usage.

4. Special services were provided to improve the levels of interaction between parents of immigrant pupils and the school. The project staff aided in explaining system policies and curriculum to parents as well as maintaining open communication with parents and community leaders by sponsoring community activities and promoting the exchange of cultural heritage within the community.

RECOMMENDATIONS

In that the participants in this project were pupils who must function in an educational setting where the language is different from their primary language and whose parents could easily be alienated from the schools because of language barriers, it is recommended that:

1. Special instructional services be continued and increased.

2. Social services be continued as a vital part of project activities.

3. Staff personnel continue to develop and critique activities, methods, and materials in terms of adaptability to varying situations.

4. Staff personnel continue to revise diagnostic and prescriptive procedures to insure appropriate instructional activities to meet specific needs of pupils.

PROJECT STAFF*

Millicent Wright	Coordinator for Bilingual Education
Hubert Cobb	Department Chairperson
Esther Domingo	Project Room Aide
Linda Williams	ESOL
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Esther Wilcox	ESOL

Ruby Diaz	Spanish Assistant Teacher
Elena Mola	Spanish Assistant Teacher
Georgina Placeres	Spanish Teacher
Lowrie A. Fraser	Research Assistant

*The salaries of two teachers, the department chairperson, and one half of the salary of the coordinator and project room aide were paid through general funds to extend the project services.

INSTRUCTIONAL MATERIALS

For this program, we have chosen to use the Modern American English series by Robert J. Dixon (Regents Publishing Company) as the basic text for classroom presentation. It has also been used as the source in the preparation of the pretest and posttest (diagnostic) in Levels I through V. This series has a companion workbook and tapes for the five different levels.

In addition to this series, there are many other series specially prepared for English as a second language, and are available to the teachers in the ESOL program.

Following is a list of some of the additional textbooks, supplementary readers, workbooks, and audio-visual programs available in the project room and classrooms:

Textbooks

1. English Step by Step with Pictures, Boggs and Dixon; Regents Publishing Co.
2. English in Action, Dixon; Regents Publishing Co.
3. Learning to Use English, Finocchiaro; Regents Publishing Co., Books 1 and 2.
4. English for Today, the National Council of Teachers of English; McGraw-Hill Book Company, Inc., Books 1–6.
5. New Horizons in English, Mellgren and Walker; Addison-Wesley Publishing Co., Books 1–4.
6. Mastering American English, Hayden, Pilgrim, and Haggard; Prentice-Hall, Inc.

Workbooks

1. Guidebooks to Better English, Lydia P. Haag; Educational Guidelines Co., Levels 1–4.
2. Regents English Workbook, Dixon; Regents Publishing Co., Books 1–3.
3. Exercises in English Conversation, Dixon; Regents Publishing Co., Books 1 and 2.
4. Pronunciation Exercises in English, Clarey and Dixon; Regents Publishing Co.
5. Essential Idioms in English, Dixon; Regents Publishing Co.

6. Everyday Dialogues in English, Dixon; Regents Publishing Co.

7. Study Skills for Students of English as a Second Language, Richard C. Yorkey; McGraw-Hill Book Company, Inc.

8. Building English Sentences, Eugene T. Hall; Regents Publishing Co., Books 1–10.

9. The Key to English series, English Language Services, Inc; Collier-Macmillan Co.

10. Writing Power, Books A-D, Xerox Co.

Supplementary Readers

1. The Turner-Livingston Communication series; Richard H. Turner; Follett Publishing Co., Books 1–6.

2. Collier-Macmillan English Readers, English Language Services, Inc.; Collier-Macmillan Co.

3. Modern Short Stories in English, Dixon, Regents Publishing Co.

4. Easy Reading Selections in English, Dixon; Regents Publishing Co.

5. Elementary Reader in English, Dixon Regents Publishing Co.

6. Reader's Digest New Reading Skill Builder; Reader's Digest Services, Inc. Levels 1–6. Workbooks and tapes.

7. Orientation in American English, Sandar Costinett, Institute of Modern Language, Inc. Books 1–6.

Audio-Visual Programs

1. Special English Program; Electronics Foundation Institute.

2. Accent on English; Electronics Foundations Institute.

3. Peabody Language Kits; American Guidance Services.

4. Introduction to English; Eyegate Co.

5. Progressive Audio Lingual Drills in English; Regents Publishing Co.

6. Modern American English: Reader's Digest Co.

ESAA PILOT, PART II — SPECIAL MATHEMATICS

INTRODUCTION

The Atlanta Public Schools received a federal grant of $432,699 for the operation of a pilot project under the Emergency School Aid Act (ESAA) for the 1978-79 school year. The allocation of $248,685 was for the Special Mathematics Program for pupils enrolled in 20 Atlanta Public Schools elementary schools and the regular classroom teachers who provided mathematics instruction for their pupils.

The Atlanta Public School System is concerned by the low performance of elementary children in basic mathematics. Even though Atlanta has been ruled a unitary school system, many problems are centered around racial and cultural differences. Evidence abounds to indicate that students in predominantly black or all black schools score lower on achievement tests than students enrolled in schools that are predominantly white. A majority of the minority race pupils were performing below the national norm and/or their nonminority race peers.

It was believed that a different and effective approach to mathematics education was necessary through which students, parents, and school administrators could work cooperatively to improve pupil achievement and increase population of mathematics of all concerned.

Consequently, the basic curriculum in the Special Mathematics Program was the Curriculum Development Associates (CDA) Mathematics Program developed by Robert Wirtz. (Washington, D. C.: Curriculum Development Associates, 1971, Second Edition.)

The Special Mathematics Program sought to aid pupils' mathematics skills in the following manner:

1. It focused on the development of a positive attitude toward mathematics and the development of computational skills.

2. Pupil participation was in two sections: Individualized Computation, and Patterns and Problems.

3. CDA materials included resources for community participants. These resources included letters to parents and suggestions for parental work with the child in the area of mathematics.

4. Many nonverbal techniques were included in the program to avoid language interference by pupils.

5. Staff development was an integral part of the program. Professional development continued through training activities concerned with the materials of instruction.

It was predicted that as a result of this program gains in mathematics skills would be apparent through the Iowa Tests of Basic Skills (ITBS).

ACHIEVEMENT OF OBJECTIVES

The overall objective was to improve pupil mathematics skills as well as the development of a positive attitude toward mathematics. Further, teachers were to become more proficient in teaching mathematics skills along with the development of a more positive attitude toward mathematics.

More specifically, the objectives, activities, and achievement of pupils and teachers were as follows:

Objective 1

By the end of the project year, pupils participating in the project will show a gain of one age achievement quotient (AAQ) point more than the gain achieved the previous year as measured by the ITBS.

School personnel identified pupils in each school, determined their level of math performance, and ordered appropriate materials for each pupil. The ESAA Special Mathematics classes involved the total school population in all grades. The classes met daily for an amount of time equal to that of math classes in other non-ESAA Special Mathematics schools. Pupils utilized the books of the program — Individualized Computation, Patterns and Problems, and Drill and Practice.

Manipulatives in the form of beans, "bean sticks," and "ratts" were used by those pupils in the concrete stage of thought. Pupils learned to count and record the results of counting. The four basic experiments in mathematics — addition, subtraction, multiplication, and division — were introduced at the appropriate level for each class and/or child and reinforced with drill and practice.

The ITBS was administered in all schools in April 1979. The achievement from one year to the next was calculated using the AAQ.

In Atlanta, the AAQ is utilized since there are several thousand children in nongraded situations for whom grade level comparison would be inappropriate. The AAQ is determined in the following manner: (1) the child's grade equivalent score on the ITBS is converted into age achievement score by a conversion table and (2) the child's age equivalent score is then divided by the child's actual age at the time of testing, and multiplied by 100. A score of above 100 indicates a child is peforming higher than his age group. If the score is below 100, this would indicate the performance is below the mean performance of children who are the same age. Comparisons are thus available across the system by age.

In Table 2.1 the data are presented indicating the total school change in AAQ for each school in the project. To compare the change in AAQ from 1977-78 to 1978-79, matched data were used. Thus, only pupils in grade 2 and above were able to be matched for comparison. The table further describes achievement in the lower grades (2 through 3) and upper grades (4 through 7) as well as total school achievement. Using a total score for each school, 18 schools had a negative gain in AAQ and two had no gain, with the total project having a loss of 3 AAQ points the lower grades had a loss of 4 AAQ points, while the upper grades lost only 2 AAQ points. Last year's data showed a four point loss for lower grades, a two point loss for upper grades and a four point loss for the 20 schools.

TABLE 2.1

CHANGE IN MATH AGE ACHIEVEMENT QUOTIENT (AAQ) BASED ON IOWA TESTS OF BASIC SKILLS (ITBS) SCORES

School	Level	Number of Students	Math AAQ 1978	Math AAQ 1979	Difference
Elementary					
Arkwright	Lower	93	104	96	-8
	Upper	185	92	88	-4
	Total	278	96	92	-4
Beecher Hills	Lower	118	102	100	-2
	Upper	230	96	94	-2
	Total	348	98	96	-2
Ben Hill	Lower	150	107	101	-6
	Upper	261	95	95	0
	Total	411	99	97	-2
Burgess	Lower	63	99	93	-6
	Upper	188	92	90	-2
	Total	251	93	90	-3
Center Hill	Lower	63	103	95	-8
	Upper	147	87	86	-1
	Total	210	92	89	-3
Collier Heights	Lower	152	104	100	-4
	Upper	296	96	96	0
	Total	448	99	97	-2
Connally	Lower	176	109	106	-3
	Upper	366	91	89	-2
	Total	542	97	94	-3
Continental Colony	Lower	149	108	101	-7
	Upper	296	96	96	0
	Total	445	100	98	-2
East Lake	Lower	96	102	97	-5
	Upper	130	94	91	-3
	Total	226	97	93	-4
Fain	Lower	149	102	101	-1
	Upper	246	91	87	-4
	Total	395	95	93	-2

TABLE 2.1 (Cont'd.)

School	Level	Number of Students	Math AAQ 1978	Math AAQ 1979	Difference
Elementary Continued					
Fickett	Lower	82	110	106	-4
	Upper	185	98	96	-2
	Total	267	101	99	-2
Gordon	Lower	99	103	100	-3
	Upper	197	91	88	-3
	Total	296	95	92	-3
Harris	Lower	75	104	101	-3
	Upper	150	93	91	-2
	Total	225	97	95	-2
Harwell	Lower	142	109	104	-5
	Upper	212	94	90	-4
	Total	354	100	95	-5
Peterson	Lower	100	102	98	-4
	Upper	201	92	88	-4
	Total	301	95	92	-3
Stanton, F. L.	Lower	61	110	100	-10
	Upper	106	94	89	-5
	Total	167	100	93	-7
Towns	Lower	135	105	97	-8
	Upper	238	88	87	-1
	Total	373	94	90	-4
Venetian	Lower	207	104	100	-4
	Upper	367	93	91	-2
	Total	574	97	94	-3
White	Lower	68	101	103	2
	Upper	219	93	93	0
	Total	287	95	95	0
Wright	Lower	53	106	108	-2
	Upper	102	96	98	2
	Total	155	0	0	0
Project Total	Lower	2,231	101	105	-4
	Upper	4,322	91	93	-2
	Total	6,553	94	97	-3

Another look at the data, Table 2.2, compared pupil's gains in AAQ using 1976-77 as the base year. For this study, only pupils currently in grade 3 and above who have three years of ITBS scores are included. Further, pupils were grouped according to their 1977-78 AAQ, thus: below 89, 90 to 99, 100 to 109, and above 109. For those 1,819 pupils with AAQ below 89, only pupils in four schools made a positive gain, while five schools' pupils maintained the AAQ from the previous year. The remaining schools failed to make a positive gain. The gain in AAQ over the year for the below 89 AAQ group was -6 AAQ points.

For those 1,548 punils with AAQ in the 90 to 99 range, two schools had a positive gain, one remained steady, and the remainder lost. Overall, the pupils in the 90 to 99 AAQ range had a -3 AAQ point gain. For those 1,199 pupils in the 100 to 109 AAQ point range, one school made a positive gain, one school remained steady, and the remainder lost. For the total 100 to 109 AAQ range group, the gain was -3. The 632 pupils who fell in the above 110 AAQ range had no positive gains in AAQ in any school and lost 6 AAQ points for the group.

The last column in Table 2.2 provides data concerning gains for 1977 to 1979. For the total group there was a loss of 5 AAQ points. The group with the least loss was the 90 to 99 AAQ group with a loss of 4 AAQ points. The pupils in the below 89 AAQ group lost 6 AAQ points over the three years, and the pupils in the 100 to 109 AAQ group lost 5 AAQ points. The pupils losing the most over the three years were those pupils who were in the above 110 AAQ range. This group lost 5 AAQ points over the three-year period.

The performance of CDA Mathematics pupils, as seen previously in Table 2.2, was a loss of 2 AAQ points. From 1977 to 1978 there was a loss of 3 AAQ points. From 1978 to 1979 there was a loss of 2 AAQ points. In the two years of the project, the AAQ has dropped from 98 to 93 for pupils with two years of matched data. The objective has been met since there was a two point AAQ loss the second year rather than a three point AAQ point loss. Thus, this is one AAQ point better than the previous year.

Mathematics gains for other pupils in the System should be compared to the pupil gains for CDA Mathematics pupils. Table 2.3 provides the comparison gains for non-CDA Mathematics pupils in other schools in the system. The total gain was -2 from 1978 to 1979 with a 5 point loss over the three years 1977 to 1979. There was no great difference in the two groups' performance on the ITBS.

The performance of ESAA Special Mathematics pupils using CDA curriculum and performance of non-CDA Mathematics pupils in other schools in the System needs to be studied. The total gain for other math pupils was -2 from 1978 to 1979 with AAQ falling from 92 to 90. From 1977 to 1979 the AAQ of non-CDA Mathematics pupils declined from 95 to 90 for a 5 point loss.

From 1978 to 1979, pupils in the below 89 AAQ range lost 1 AAQ point, pupils in the 90 to 99 AAQ range lost 2 AAQ points, and pupils in the 100 to 109 AAQ range lost 4 AAQ points. The pupils in the above 110 AAQ range lost the most — seven points.

TABLE 2.2

GAINS IN MATH AAQ AVERAGES FOR STUDENTS IN CDA MATH

School	1978 Performance Level	N	1977	1978	AAQ Gain	1978	1979	AAQ Gain	1977-1979 AAQ Gain
Arkwright	AAQ - 89	89	87	81	-6	81	80	-1	-7
	AAQ 90 - 99	68	98	94	-4	94	91	-3	-7
	AAQ 100 - 109	48	107	104	-3	104	99	-5	-8
	AAQ 110 -	22	115	115	1	115	109	-6	-6
Total School		227	97	93	-4	93	90	-3	-7
Beecher Hills	AAQ - 89	78	86	82	-4	82	82	0	-4
	AAQ 90 - 99	84	97	95	-2	95	94	-1	-3
	AAQ 100 - 109	78	106	104	-2	104	101	-3	-5
	AAQ 110 -	33	115	119	4	119	114	-5	-1
Total School		273	99	97	-2	97	95	-2	-4
Ben Hill	AAQ - 89	108	89	81	-8	81	83	2	-6
	AAQ 90 - 99	93	99	96	-3	96	95	-1	-5
	AAQ 100 - 109	79	106	104	-2	104	102	-2	-4
	AAQ 110 -	60	114	116	2	116	111	-5	-3
Total School		340	100	97	-3	97	96	-1	-4
Burgess	AAQ - 89	88	88	82	-6	82	82	0	-6
	AAQ 90 - 99	66	96	94	-2	94	91	-3	-5
	AAQ 100 - 109	38	104	104	0	104	99	-5	-5
	AAQ 110 -	13	113	115	2	115	108	-7	-5
Total School		205	95	92	-3	92	89	-3	-6
Center Hill	AAQ - 89	102	85	77	-8	77	78	1	-7
	AAQ 90 - 99	47	101	95	-6	93	92	-3	-9
	AAQ 100 - 109	24	107	103	-4	103	96	-7	-11
	AAQ 110 -	13	110	117	7	117	98	-19	-12
Total School		186	94	88	-6	88	85	-3	-9
Collier Heights	AAQ - 89	94	92	83	-9	83	83	0	-9
	AAQ 90 - 99	103	99	95	-4	95	93	-2	-6
	AAQ 100 - 109	100	108	104	-4	104	104	0	4
	AAQ 110 -	57	117	117	0	117	114	-3	-3
Total School		354	103	98	-5	98	97	-1	-6
Connally	AAQ - 89	167	89	81	-8	81	81	0	-8
	AAQ 90 - 99	96	99	95	-4	95	92	-3	-7
	AAQ 100 - 109	95	106	104	-2	104	102	-2	-4
	AAQ 110 -	50	114	116	2	116	113	-3	-1
Total School		408	98	94	-4	94	92	-2	-6
Continental Colony	AAQ - 89	91	87	82	-5	82	84	2	-3
	AAQ 90 - 99	99	96	94	-2	94	94	0	-2
	AAQ 100 - 109	110	105	104	-1	104	103	-1	-2
	AAQ 110 -	56	112	115	3	115	111	-4	-1
Total School		356	99	98	-1	98	97	-1	-2
East Lake	AAQ - 89	57	91	83	-8	83	82	-1	-9
	AAQ 90 - 99	59	98	94	-4	94	90	-4	-8
	AAQ 100 - 109	36	104	104	0	104	99	-5	-5
	AAQ 110 -	15	111	115	4	115	106	-9	-5
Total School		167	98	94	-4	94	90	-4	-8

TABLE 2.2 (Cont'd.)

School	1978 Performance Level	N	1977	1978	AAQ Gain	1978	1979	AAQ Gain	1977-1979 AAQ Gain
Fain	AAQ - 89	120	87	81	-6	81	81	0	-6
	AAQ 90 - 99	83	99	94	-5	94	91	-3	-8
	AAQ 100 - 109	64	107	104	-3	104	96	-8	-11
	AAQ 110 -	29	117	117	0	117	104	-13	-13
Total School		296	98	93	-5	93	89	-4	-9
Fickett	AAQ - 89	48	89	84	-5	84	85	1	-4
	AAQ 90 - 99	67	98	95	-3	95	96	1	-2
	AAQ 100 - 109	56	105	104	-1	104	102	-2	-3
	AAQ 110	46	116	117	1	117	110	-7	-6
Total School		217	102	100	-2	100	98	-2	-4
Gordon	AAQ - 89	86	86	81	-5	81	80	-1	-6
	AAQ 90 - 99	89	98	94	-4	94	91	-3	-7
	AAQ 100 - 109	46	104	103	-1	103	99	-4	-5
	AAQ 110 -	17	113	115	2	115	108	-7	-5
Total School		238	96	93	-3	93	90	-3	-6
Harris	AAQ - 89	64	87	81	-6	81	82	1	-5
	AAQ 90 - 99	75	98	95	-3	95	94	-1	-4
	AAQ 100 - 109	40	106	104	-2	104	101	-3	-5
	AAQ 110 -	16	109	115	6	115	108	-7	-1
Total School		195	97	94	-3	94	93	-1	-4
Harwell	AAQ - 89	70	89	82	-7	82	81	-1	-8
	AAQ 90 - 99	77	100	95	-5	95	91	-4	-9
	AAQ 100 - 109	57	107	104	-3	104	98	-6	-9
	AAQ 110 -	49	116	118	2	118	106	-12	-10
Total School		253	102	98	-4	98	93	-5	-9
Peterson	AAQ - 89	100	86	81	-5	81	80	-1	-6
	AAQ 90 - 99	77	98	94	-4	94	92	-2	-6
	AAQ 100 - 109	62	106	104	-2	104	99	-5	-7
	AAQ 110 -	14	109	113	4	113	107	-6	-2
Total School		253	96	92	-4	92	90	-2	-6
Stanton, F. L.	AAQ - 89	43	88	82	-6	82	80	-2	-8
	AAQ 90 - 99	46	103	95	-8	95	89	-6	-14
	AAQ 100 - 109	24	103	104	1	104	98	-6	-5
	AAQ 110 -	23	121	120	-1	120	102	-18	-19
Total School		136	101	96	-5	96	90	-6	-11
Towns	AAQ - 89	137	89	81	-8	81	82	1	-7
	AAQ 90 - 99	75	103	94	-9	94	93	-1	-10
	AAQ 100 - 109	39	108	104	-4	104	98	-6	-10
	AAQ 110 -	21	121	116	-5	116	106	-10	-15
Total School		272	98	91	-7	91	89	-2	-9
Venetian	AAQ - 89	139	88	82	-6	82	82	0	-6
	AAQ 90 - 99	141	98	95	-3	95	92	-3	-6
	AAQ 100 - 109	103	105	104	-1	104	100	-4	-5
	AAQ 110 -	45	113	114	1	114	107	-7	-6
Total School		428	98	95	-3	95	92	-3	-6
White	AAQ - 89	104	89	81	-8	81	82	1	-7
	AAQ 90 - 99	73	97	94	-3	94	93	-1	-4
	AAQ 100 - 109	61	106	104	-2	104	105	1	-1
	AAQ 110 -	29	116	115	-1	115	115	0	-1
Total School		267	98	94	-4	94	94	0	-4

TABLE 2.2 (Cont'd.)

School	1978 Performance Level	N	1977	1978	AAQ Gain	1978	1979	AAQ Gain	1977-1979 AAQ Gain
Wright	AAQ - 89	34	86	80	-6	80	83	3	-3
	AAQ 90 - 99	30	98	94	-4	94	95	1	-3
	AAQ 100 - 109	39	105	104	-1	104	103	-1	-2
	AAQ 110 -	24	110	116	6	116	113	-3	3
Total School		127	99	98	-1	98	98	0	-1
System Summary	AAQ - 89	1,819	88	81	-7	81	82	1	-6
	AAQ 90 - 99	1,548	99	95	-4	95	92	-3	-4
	AAQ 100 - 109	1,199	106	104	-2	104	101	-3	-5
	AAQ 110 -	632	115	116	1	116	110	-6	-5
Total System		5,198	98	95	-3	95	93	-2	-5

TABLE 2.3

NON-CDA MATH STUDENTS — SYSTEM SUMMARY

1978 Performance Level	N	1977	1978	AAQ Gain	1978	1979	AAQ Gain	1977-1979 Gain
AAQ - 89	9,735	85	80	-5	80	79	-1	-6
AAQ 90 - 99	5,701	98	94	-4	94	92	-2	-6
AAQ 100 - 109	3,913	105	104	-1	104	100	-4	-5
AAQ 110 -	2,667	114	117	3	117	110	-7	-4
Final Totals	22,016	95	92	-3	92	90	-2	-5

Over the three years, the comparison for pupils in the ESAA Special Mathematics Program was:

CDA Math	CDA Math	Non-CDA Math
Below 89 AAQ	-6	-6
90 - 99 AAQ	-4	-6
100 - 109 AAQ	-5	-5
110 - AAQ	-5	-4
Total	-5	-5

The loss for both groups was the same. Each group lost 5 AAQ points. The ESAA Special Mathematics pupils started at a higher level, 98 AAQ, while the regular math pupils in other schools started at 95 AAQ. Both declined 5 AAQ points and remained at the same level relative to each other at the end of the second year's program.

An additional measure of success of pupils in CDA Mathematics classes can be found in the performance of fourth grade pupils on the Georgia Criterion-Referenced Tests (CRT) which is administered in the spring of each academic year. The 20 state objectives for mathematics are as follows.

The student is able to:

1. Show that the number of objects in one set is the same as or is not the same as the number in another set; count by one's, two's, three's, five's, ten's, and hundred's.

2. Express names of numbers, including whole numbers, fractions, and decimal fractions, in various ways.

3. Read and write names of numbers up through million (with numerical symbols and words).

4. Tell which arithmetic operation is appropriate to a given problem situation.

5. Recall any of the addition and subtraction facts and any of the multiplication and division facts through products to 50.

6. Apply and recognize use of the properties of numbers (such as properties of zero and one) and properties of operations (commutative, associative, and distributive without emphasis on the use of the words).

7. Add and subtract with numerals up to four digits (with regrouping).

8. Multiply a three-digit number by a one-digit number, and divide a three-digit number by a one-digit number (with or without remainder).

9. State the relation of a given set of elements; state pairs of elements for a given relation (such as "is equal to," "is less than," and "is the brother of").

10. Sort and classify objects by similarities or differences.

11. Make diagrams, tables, graphs, or other written record of relations (ordered pairs).

12. Name and identify standard geometric shapes.

13. Select from given geometric shapes a shape which matches one that has been turned around, flipped over, moved sideways, stretched, or shrunk.

14. State the relation between points or between geometric figures, such as points inside or outside of a closed curved or a line parallel to another line.

15. Select a unit of measure appropriate to a situation in which time, weight, length, area, volume, temperature, or money is measured.

16. Find to the nearest whole number of units a measurement of time, weight, length, area, volume, temperature, or money.

17. Make estimates of measurements and make comparisons (such as using "a little more than").

18. Collect information and make tables, charts, and graphs of data gathered.

19. Read tables, charts, and graphs of information, and draw inferences from the information.

20. Specify outcomes that are more likely, less likely, equally likely, or not likely to occur from a given set of possible outcomes.

Table 2.4 provides the per cent of students achieving each objective in each CDA Mathematics school compared to Atlanta City Schools, the Metro Educational Planning District (EPD), and Georgia schools. In comparison to the Georgia-Metro EPD averages, there were four objectives (3, 7, 8, 16) where no CDA Mathematics school equaled or exceeded the Georgia and Metro EPD averages. Gordon Elementary exceeded the State and Metro EPD averages on 12 objectives, while Harris Elementary exceeded the State and Metro EPD averages on nine objectives. Eleven of the CDA Mathematics schools did not equal or exceed the State or Metro EPD averages on any objective.

It is apparent that Atlanta City fourth grade CDA Mathematics pupils' averages on the Georgia CRT are below the State and Metro EPD averages. Two of the CDA Mathematics elementary schools, Center Hill and East Lake, did not equal or exceed the Atlanta City average per cent of pupils achieving the objective on any objective. However, three elementary schools, Continental Colony, Gordon, and Harris, equaled or exceeded average for the City on all objectives. Other schools ranged between the extremes of those five schools.

Objective 2

Pupils participating in the Special Mathematics Project will demonstrate a statistically significant increase (at the .05 level) in improved self-concept as a learner, as measured by the Self-Concept as a Learner (SCAL) Scale, in a pretest/posttest design during September 1978 and May 1979.

The pupils in the Special Mathematics Program were involved in individualized work, small group work, and large group work. The teachers taught the ESAA Special

TABLE 2.4

GEORGIA CRITERION-REFERENCED TESTS GRADE 4
PERCENT OF STUDENTS ACHIEVING OBJECTIVES — CDA SCHOOLS

Area / Objective Number	N	Sets, Numbers, Numeration			Operations, Properties, Number Theory					Relations Functions			Geometry			Measurement			Probability, Statistics		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Georgia	—	89	72	55	86	76	62	63	74	89	94	88	79	78	77	77	55	78	84	85	79
Metro EPD	—	88	73	55	86	77	65	62	73	89	94	88	80	79	77	77	58	79	85	85	79
Atlanta City	—	72	49	30	72	54	41	37	52	76	88	72	57	58	57	52	31	54	70	65	62
Elementary Schools																					
Arkwright	47	77	47	40	55	49	34	36	72	81	83	66	51	45	51	64	32	45	81	66	64
Beecher Hills	59	75	75	44	81	63	39	44	68	76	81	76	56	61	71	51	24	53	80	78	53
Ben Hill	85	85	45	32	78	75	49	53	59	72	95	73	61	69	68	59	36	54	76	71	61
Burgess	45	71	44	16	76	49	22	38	47	73	89	73	51	49	64	44	27	56	62	60	51
Center Hill	41	61	24	12	66	41	7	22	51	68	76	63	27	44	34	41	20	44	63	54	49
Collier Heights	78	69	59	38	81	60	41	38	46	74	90	71	62	69	55	56	32	67	63	67	62
Connally	103	75	58	37	82	56	46	40	57	80	89	76	64	63	61	53	41	62	68	75	66
Continental Colony	107	83	69	45	84	62	39	44	68	87	95	83	75	80	78	64	40	68	81	77	74
East Lake	77	66	35	16	62	43	25	32	36	69	86	68	44	43	49	47	22	40	61	64	53
Fain	68	72	43	16	66	47	28	26	40	82	91	71	40	59	47	49	26	51	75	60	68
Fickett	47	83	51	23	77	53	45	43	64	83	98	79	74	70	66	60	32	62	79	68	66
Gordon	43	93	72	49	93	70	58	44	63	84	100	88	81	79	84	79	40	79	88	86	84
Harris	34	94	68	38	94	91	50	41	71	94	100	88	62	88	74	62	65	71	97	85	88
Harwell	70	56	40	20	59	40	29	29	33	63	81	63	47	53	37	34	21	46	59	51	43
Peterson	56	77	41	11	79	64	23	50	63	88	95	84	61	63	61	64	39	68	80	79	64
Stanton, F. L.	33	73	24	30	64	30	15	52	48	79	88	70	39	39	38	45	30	27	70	70	52
Towns	66	77	56	26	77	71	59	48	39	76	97	80	67	61	74	50	29	70	73	79	47
Venetian Hills	94	76	50	18	74	56	27	39	38	78	93	64	45	65	41	34	26	46	57	54	47
White	44	82	61	36	86	66	64	45	59	89	89	86	64	64	66	57	36	73	73	73	68
Wright	27	78	59	30	63	52	41	30	52	81	96	74	52	59	59	52	15	63	67	59	59

Mathematics utilizing the CDA materials, and special techniques which they had learned in the workshops.

Table 2.5 provides data for the comparison of performance of pupils in each school on the SCAL. The pupils in each school are divided into primary (grades 2 through 3), intermediate (grades 4 through 7), and total group for comparison. The mean for the total group pretest was 117.43 while the mean for the total group posttest was 117.91. For the total group score, a t test for difference between the means was calculated. There was a positive gain for the total group on the SCAL which was significant at the .05 level. For the total group, the objective was achieved.

Table 2.5 also provides the comparison of each school's total score and the level of significance. Four schools had a significant negative gain on the SCAL, and eight schools had a significant positive gain on the SCAL. Eleven schools had a significant positive gain on the SCAL at the primary level (grades 2 through 3), two schools had a significant positive gain at the intermediate level (grades 4 through 7), and three schools had a significant negative gain at the intermediate level (grades 4 through 7). Two schools had a significant negative gain at the primary level.

Table 2.6 provides the subtest totals, pretest and posttest, for SCAL. Individual school's change can be observed on each of the variables. However, the total group appears to have no change in the subtests, due to number rounding, except in problem solving.

Problem solving is the ability to identify and solve problems. With this ability, students do not remain frustrated by unsolved situations. Students need to learn to solve problems — for without that ability, their self-concepts suffer through the frustration of continuing difficulties. Though a one point drop for 7,705 students is not great, it is worth noting pupil's attitudes when measured in relation to a mathematics program designed to teach such skills.

Although the one point gain in SCAL total was a statistically significant gain, it is inconsequential educationally since the number was so large. Such a gain was not unexpected.

Objective 3

Teachers participating in the Special Mathematics Project will become more proficient in terms of math-teaching competencies and develop more positive attitudes toward mathematics as determined by a teacher questionnaire administered in May 1979.

During the year, staff development sessions were held for principals, resource teachers, and teachers. Special in-service sessions were held for teachers new to the program. The first sessions were held in September for four days. In November, there were two days of in-service training. The in-service model was modified. Instead of each teacher spending half a day in an in-service meeting, one representative from the primary teachers and one representative from the middle/upper attended a full-day session. These representative teachers were expected to return to their respective schools, share ideas received from the sessions, and observe each other teach the ESAA Special Mathematics. In January, a questionnaire was sent to the teachers to determine whether they indeed had implemented the model. Seventy-two per cent indicated they had shared their

TABLE 2.5

CHANGE IN ESAA SPECIAL MATH STUDENTS' SELF-CONCEPT AS MEASURED BY SELF-CONCEPT AS A LEARNER SCALE (SCAL)

School	Level	Number of Students	Pretest Average September 1978	Posttest Average May 1979	Degrees of Freedom	t
Arkwright	Primary	90	105.58	111.43	89	4.37*
	Intermediate	192	120.50	121.08	191	0.73
	Total	282	115.74	118.00	281	3.24*
Beecher Hills	Primary	109	119.75	121.57	108	1.60
	Intermediate	246	119.17	119.32	245	0.21
	Total	355	119.35	120.01	354	1.14
Ben Hill	Primary	153	114.68	121.14	152	6.38*
	Intermediate	273	125.60	126.34	272	1.16
	Total	426	121.68	124.47	425	4.98*
Burgess	Primary	55	110.69	111.30	54	0.29
	Intermediate	164	119.23	118.34	163	-1.14
	Total	219	117.08	116.57	219	-0.64
Center Hill	Primary	59	111.67	115.15	58	2.19*
	Intermediate	181	115.51	112.39	180	-4.23*
	Total	240	114.57	113.07	239	-2.13*
Collier Heights	Primary	145	114.85	114.37	144	-0.61
	Intermediate	313	121.96	121.88	312	-0.14
	Total	458	119.71	119.51	457	-0.46
Connally	Primary	178	109.05	111.19	177	2.36*
	Intermediate	361	118.74	118.49	360	-0.43
	Total	539	115.54	116.08	438	1.09
Continental Colony	Primary	160	119:01	117.38	159	-1.73*
	Intermediate	342	123.74	121.72	341	-3.71*
	Total	502	122.23	120.33	501	-3.98*
East Lake	Primary	91	114.02	117.40	90	3.10*
	Intermediate	143	115.79	116.02	142	0.23
	Total	234	115.10	116.55	233	1.97*
Fain	Primary	137	110.05	112.49	136	2.07*
	Intermediate	243	117.14	116.77	242	-0.58
	Total	380	114.59	115.23	379	1.08
Fickett	Primary	79	114.41	115.37	78	0.58
	Intermediate	206	124.42	121.37	205	-4.23*
	Total	285	121.65	119.71	284	-2.76*
Gordon	Primary	106	113.51	115.53	105	1.69*
	Intermediate	199	118.43	120.07	198	2.34*
	Total	305	116.72	118.49	304	2.88
Harris	Primary	67	110.67	115.37	66	2.61*
	Intermediate	168	117.64	117.86	167	0.30
	Total	235	115.65	117.15	234	2.03*
Harwell	Primary	140	112.48	116.71	139	3.73*
	Intermediate	219	118.32	119.13	218	1.22
	Total	359	116.04	118.19	358	3.53*
Peterson	Primary	91	113.75	115.97	90	1.87
	Intermediate	209	116.11	117.87	208	2.42*
	Total	300	115:39	117.30	299	3.06*
Stanton, F.L.	Primary	66	111.74	115.72	65	3.29*
	Intermediate	87	122.83	123.05	86	0.17
	Total	153	118.05	119.89	152	2.06*

TABLE 2.5 (Cont'd.)

School	Level	Number of Students	Pretest Average September 1978	Posttest Average May 1979	Degrees of Freedom	t
Towns	Primary	111	107.98	110.11	110	1.68
	Intermediate	239	114.47	114.08	238	-0.59
	Total	350	112.41	112.82	349	0.68
Venetian	Primary	168	116.69	115.69	167	-1.11
	Intermediate	280	117.88	117.46	279	-0.65
	Total	448	117.44	116.80	447	-1.21
White	Primary	100	118.14	115.41	99	-2.00*
	Intermediate	230	120.95	120.16	229	-1.19
	Total	330	120.10	118.72	329	-2.22*
Wright	Primary	64	112.10	116.21	63	3.22*
	Intermediate	107	113.94	114.40	106	0.41
	Total	171	113.25	115.08	170	2.13*
System Total		6,571	117.43	117.91	6,570	.001*

*$p < .05$

TABLE 2.6

SELF-CONCEPT AS A LEARNER (SCAL) - PRETEST AND POSTTEST AVERAGE SUBTESTS AND TOTAL

		Pre						Post					
School	Level	N	Motivation	Task Orientation	Problem Solving	Class Membership	Total	N	Motivation	Task Orientation	Problem Solving	Class Membership	Total
Arkwright	Primary	105	26	26	29	23	104	104	28	28	30	24	110
	Intermediate	214	31	31	31	26	120	218	31	31	31	27	120
	Total	319	29	29	31	25	115	332	30	30	31	26	117
Beecher Hills	Primary	117	29	31	34	26	120	121	31	31	33	26	121
	Intermediate	264	30	31	32	26	119	263	31	31	31	26	119
	Total	381	30	31	32	26	119	384	31	31	32	26	120
Ben Hill	Primary	175	29	29	32	24	114	169	30	32	33	26	121
	Intermediate	322	31	33	34	27	125	298	32	33	33	27	126
	Total	497	30	32	33	26	121	467	31	33	33	27	124
Burgess	Primary	63	28	28	32	24	111	64	28	28	32	23	111
	Intermediate	178	30	30	32	26	119	215	30	30	32	26	118
	Total	243	29	30	32	26	117	279	30	30	32	26	116
Center Hill	Primary	74	28	28	31	23	110	72	28	30	33	24	115
	Intermediate	196	30	30	31	25	115	202	30	28	29	25	112
	Total	270	29	29	31	24	114	274	30	29	30	24	113
Collier Heights	Primary	337	31	32	32	27	122	151	29	30	32	24	115
	Intermediate	166	28	29	32	25	115	334	32	31	31	27	122
	Total	503	30	31	32	26	119	485	31	31	32	26	119
Connally	Primary	203	28	27	30	24	109	201	28	28	30	24	111
	Intermediate	392	30	31	32	26	119	415	30	31	31	26	118
	Total	595	29	30	31	25	115	616	30	30	31	26	116
Continental Colony	Primary	202	30	30	32	25	118	188	29	30	32	25	117
	Intermediate	400	31	32	33	27	123	395	31	32	32	26	121
	Total	602	31	32	33	26	121	583	30	31	32	26	120
East Lake	Primary	122	29	29	32	25	115	118	29	29	33	25	116
	Intermediate	164	29	30	31	25	115	152	30	30	31	25	116
	Total	286	29	30	31	25	115	270	30	30	32	25	116
Fain	Primary	151	28	27	31	24	109	167	29	29	31	24	113
	Intermediate	275	30	31	30	26	117	273	31	30	30	26	117
	Total	426	30	29	30	25	114	440	30	30	30	25	115
Fickett	Primary	93	29	29	32	24	114	93	29	29	31	25	114
	Intermediate	216	32	32	33	28	125	217	32	31	31	27	119
	Total	309	31	31	32	27	121	310	31	31	31	26	119
Gordon	Primary	126	29	29	31	25	113	130	29	29	32	25	114
	Intermediate	241	30	31	32	25	118	226	31	31	32	26	119
	Total	367	30	30	32	25	116	356	30	30	32	25	117
Harris	Primary	81	27	28	31	24	110	99	29	29	32	25	114
	Intermediate	199	31	30	32	26	118	184	31	30	31	26	118
	Total	280	30	29	31	25	116	283	30	30	31	25	117
Harwell	Primary	162	28	29	32	24	112	250	31	31	32	26	119
	Intermediate	242	30	30	32	26	118	170	29	30	32	25	116
	Total	404	29	30	32	25	116	420	30	31	32	25	118
Peterson	Primary	125	29	29	31	25	113	99	30	30	31	25	115
	Intermediate	233	31	29	30	26	116	235	31	30	30	26	117
	Total	358	30	29	30	25	115	334	31	30	31	25	117
Stanton, F. L.	Primary	78	28	28	32	24	112	79	30	30	32	25	116
	Intermediate	91	30	32	34	26	123	127	31	32	32	26	121
	Total	169	29	30	33	25	118	206	30	31	32	26	119
Towns	Primary	157	27	27	30	23	107	137	28	28	30	23	110
	Intermediate	292	30	30	30	25	114	272	30	29	30	25	114
	Total	449	29	29	30	24	112	409	29	29	30	24	112
Venetian	Primary	242	29	30	32	25	116	221	29	29	31	25	114
	Intermediate	455	30	31	31	26	119	335	31	30	30	26	117
	Total	697	30	31	32	26	118	556	30	30	31	25	116
White	Primary	113	30	31	32	25	118	107	29	30	31	25	115
	Intermediate	239	31	31	32	27	121	256	31	31	31	27	120
	Total	352	31	31	32	26	120	363	30	30	31	26	118
Wright	Primary	73	28	28	32	25	112	77	28	29	32	25	115
	Intermediate	125	31	28	29	25	113	132	31	29	29	25	114
	Total	198	30	28	30	25	113	209	30	29	30	25	114
Level Average	Primary	2,630	28	29	31	24	113	2,567	29	29	32	25	115
	Intermediate	5,075	31	31	32	26	119	4,997	31	31	31	26	119
Final Totals		7,705	30	30	32	26	117	7,564	30	30	31	26	117

information with fellow teachers. As the questionnaire responses show on question 2, though, 25 per cent of the teachers said only a few teachers participated, 31 per cent said all, and 43 per cent said some CDA Mathematics teachers participated in the sessions.

Question 5 on the January questionnaire asked if teachers had seen improvement as a result of their efforts in teaching CDA Mathematics. Fifty-six per cent said yes and 43 per cent said no. An overwhelming number of principals indicated approval of the new in-service design. To pursue the design, further sessions were to be held in the school. However, 48 per cent said they planned to hold sharing sessions and 51 per cent said no. Teachers were requested to specify questions or concerns which needed to be brought to the attention of the CDA staff or mathematics coordinator. The request was fulfilled, and the comments have been compiled into one list. Teachers used the opportunity to present their ideas, attitudes, and concerns about all facets of the program to the attention of the staff. Some teachers like the program very much, and others do not. It is apparent from reading the list of concerns and comments that teachers were sharply divided concerning the program. Further, it appeared that many teachers were using one or more programs in conjunction with the ESAA Special Mathematics. The complete questionnaire and responsibilities and list of teachers' comments follow.

CDA MATHEMATICS MODIFIED IN-SERVICE MODEL EVALUATION
FOR CDA MATHEMATICS TEACHER FACILITATORS
January 1979

In order to evaluate the effectiveness of the modified in-service design implemented on November 29 and 30, the mathematics coordinator would appreciate your responses to the following items.

	Yes		No	
	No.	Per Cent	No.	Per Cent
1. Have you had an opportunity to share ideas gained during the November 29 and 30 CDA Mathematics Workshop Session with other teachers in your school?	93	72	36	27.9

2. If yes, to what degree did teachers at your school participate in your sharing session?	No.	Per Cent
All teachers of CDA Mathematics participated.	29	31.5
Some teachers of CDA Mathematics participated.	40	43.5
Only a few teachers of CDA Mathematics participated.	23	25.0

3. What was the overall reaction of the participants to the modified in-service model?	No.	Per Cent
Highly favorable.	23	19.5
Favorable.	65	55.1
Not at all favorable.	30	25.4

	Yes		No	
	No.	Per Cent	No.	Per Cent
*4. Were there any questions or concerns raised that need to be brought to the attention of the CDA staff or mathematics coordinator? (Responses on the following pages.)	62	52.5	56	47.5

	Yes		No	
	No.	Per Cent	No.	Per Cent
5. Have you observed any improvement in the teaching of CDA Mathematics in your school as a result of your efforts.	72	56.7	55	43.3

6. What was the reaction of your principal to the new in-service design?	No.	Per Cent
Highly favorable.	18	15.1
Favorable.	70	58.8
No specific reaction.	29	24.3
Not at all favorable.	2	1.7

	Yes		No	
	No.	Per Cent	No.	Per Cent
7. If you have not had an opportunity to share ideas, please indicate whether or not you plan to hold a sharing session at your school.	29	48.3	31	51.7

PLEASE SHARE ANY QUESTIONS, CONCERNS, OR RECOMMENDATIONS YOU HAVE AT THIS TIME ON THE BACK OF THIS PAGE.

CDA QUESTIONNAIRE TEACHER CONCERNS AND COMMENTS
January 1979

Concerns

*4. Were there any questions OR concerns raised that need to be brought to the attention of the CDA staff or mathematic coordinator?

Still use it supplementarily — it does not prepare children for ITBS.

Too many things to deal with in a limited time. For most part, too easy for children. It does not prepare children for ITBS.

No more questions raised at the workshop.

Not enough explained — have to study too hard to present to children — lack of guides for teachers.

There are not directions given to the teacher on how to introduce program to the children. Though open in concept, some guidance is needed.

One basic guide for CDA is needed.

Time consuming with the text and works against instruction.

How to implement necessary drill activities?

How is it correlated with math facts? We had to respond that it basically develops thinking skills.

I teach the skills and give him activity before I give him the book to do it.

I develop the math skills in sequence, rather than going by the book.

How will it teach child to respect ITBS?

Can this math program benefit child's test score?

When they take the test, will they have math skills but not CDA program material?

In comparing CDA to traditional math, it was felt that child will be involved with traditional math in the real world, therefore, CDA does not prepare for life.

It is necessary for the teacher to go through all CDA books to ascertain skills necessary and prepare students for standardized test.

Program does not address basic overall needs of our children.

Does not relate to the real world.

Good as a supplement, particularly with under and over achievers, but falls short with average students.

Fails to address the math skill needs of the average student.

Instructions for teachers in guide not sufficient.

Not enough detail.

Amount of time between introduction of CDA Mathematics and implementation by teaching staff is not sufficient.

Not sufficient time allowed for teachers to feel comfortable with the program.

Not enough materials.

Program may make too many assumptions about what children know.

Need language in CDA Mathematics.

No language in CDA Mathematics; relationship to ITBS not clear.

Problem-solving format does not coincide with that of ITBS.

Teachers needed better orientation to CDA before teaching it to the class, especially during the first year.

Teachers did not have the rough understanding beforehand.

Not enough materials in the school.

High expectation of ability to follow through and to get to all students is held.

Program is too time consuming, allowing different students to approach things a different way, and enough time to work with individual students is not available. An aide may help to alleviate this problem.

For some students it is encouraging, for it allows them to realize their potential; however, those who are slow are merely left behind.

Children have difficulty in understanding all areas covered. Some areas are difficult for teachers.

Not enough instructions or directions accompanying the materials.

CDA Mathematics does have metric system but necessary materials are not available.

The pupil's worksheet/material need to be bound together. Follow-up school visits and demonstrations by consultants are needed.

How can CDA Mathematics be related to the ITBS? (The explanation offered with was inadequate.) Please eliminate the program.

Is there some way to get printed materials (black ink) instead of having them reproduced locally with ditto.

Additional directions are needed on student worksheets; beans and sticks have not been provided.

Teacher's edition — need to explain operations in concepts for teachers.

CDA Mathematics Program could be used as supplementary work; as a total program it is absolutely a failure.

Masters have to be made for developing insight.

When the machines are broken, we do not have use of this material.

How was this type of math going to relate to the basic?

Teachers are still concerned that CDA Mathematics is not preparing pupils for the ITBS.

Teachers are concerned with the adequacy of CDA Mathematics materials to teach the required skills.

Problems with getting all materials; orientation of pupils to this approach so that they will progress at an adequate rate; methods for group and common skills working groups.

Other teachers would like for them to have orange notebooks given to the Title I teachers.

Teachers were concerned with the adequacy of CDA to teach basic skills.

There was a concern for ability of budgeted supplies.

There is always a concern for pupil preparation for tests (CRT and ITBS) and to meassure pupil growth with CDA materials.

Do not have a full understanding of how to teach CDA Mathematics and use materials.

CDA does not give enough practice in one skill area before moving to the next; children cannot move to the next level without assistance; does not allow children to move at different paces; program is rigid.

CDA does not provide children with basic skills needed in everyday situations.

More situations needed where they can think five times five and get an answer.

Okay to have new approach as long as it provides skills needed in life.

CDA does not seem to cover as much of the skills on standardized test.

Materials could be better sequenced.

Never got enough books for the students at the primary level (A, B, and C). Mr. Thomas said he was not going to send out anymore until he finds out what happened to those he had sent out earlier.

One teacher needed a guide (A-1 specified) and a teacher needed Book A for students. A first grade teacher never had any books this year, and beans are a problem.

Can see improvement in classroom — have not had opportunity to observe other classes.

Would workshops be given during school day? Also, new guide may be an aid to helping in preparation of materials.

Format of CDA workshop needs to be changed.

No information was shared at the workshop.

Need duplicating master sheets with more basic facts.

Questions raised were not answered.

Program does not provide enough structure for instructions.

Should not be the only program.

We cannot see the relationship of CDA with the State guideline for math.

Why are most demonstrations given on the primary level?

Coordinator spends all time trying to justify the program rather than trying to help us.

I was at the workshop only one hour.

CDA staff heard the questions and concerns.

Not all teachers at the workshop.

Lack of materials and lack of instructions.

Concern, why haven't the orange notebooks (CDA Mathematics Curriculum Guide) been delivered?

The orange notebook containing the program guide is needed.

The inexperienced teachers will have trouble using the materials unless they refer to the curriculum guide.

The teachers were concerned with the degree of connection between the CDA materials and ITPS.

The workshop helped to show the agreement.

Additional program materials are needed. Items such as the orange notebook have been ordered, but not delivered.

Comments

I do not think it is a motivator, not attractive (not as exciting as the Houghton Mifflin math text).

There are too many books, too many little pieces to work with, and too many parts presented bit by bit in workshops. If all were compiled in one book it would be better.

My children seem to like it, it is a fun thing. I have to use conventional things to supplement.

Very concerned that these children are not getting what they need with CDA Mathematics.

Children are not as far along as they used to be with conventional math.

Should be able to add and subtract without manipulation and other visual help in the book.

Totally impossible to make up story problem with each presentation. If they are made up, they are not sufficient practice for ITBS skills.

Need many more word problems.

I do not have the guide yet. Called a bit late but still have not received the guides (I left message with secretary, it took about 15 minutes to get the call through). Note: I suggested the message should be put in writing.

I am concerned about my own child in the third grade in this school. I can tell a world of difference between the skills in this age and my sixth grader when he was in the third grade. Although they are different, they are both able to get their work done. I am not as worried about my sixth grader because he has gotten the basic skills before CDA Mathematics was installed here.

Even at workshop the CDA expert was confused about what to be done on one page — I am not the only one to be confused.

We need more guidelines if we are going to be consistent.

Long list of concerns about CDA was presented by faculty to Dr. Norman, i.e., some kids find it interesting, others boring. In fact some have become quite frustrated about it.

Failed to see how gap is going to be breached between CDA and on what the children will be tested.

Children are not relating CDA to conventional math — do not understand the connection.

For growing practice, some of the material is available but there is not ample time to practice.

It is time consuming requiring duplication, where other materials are already prepared. In some areas this is self-corrective and is, therefore, an aid to learning.

Helps independent growth and self-acquisition.

Parents are not familiar enough with CDA to really grasp the program.

Difficult to use so many books effectively.

If the three books could be meshed, it would be beneficial. It would be good with a basal, but not alone.

Is not a challenge to the bright student.

Program is not really liked. It is not really a challenge. It is new and I guess the longer I stay involved, I will begin to see the validity.

The kids appear interested, but it causes some children to get uptight.

It is designed to make the children think; if they will learn to take this time it will probably be beneficial.

Suggest it be focused on slow learners.

Wish it would be discontinued, but average and above students do not need CDA crutch. They prefer Houghton Mifflin method fourth grade book. Word problems, materials more challenging than CDA. Those below level prefer CDA.

CDA is good for low achiever. For those able to move rapidly, something more challenging is needed.

Other texts provide skills more closely linked to those measured by test.

There are so many books and record keeping to keep track of.

Pre and post test is good, but the additional material is a problem.

Those children in CDA only appear to loose basic skills because there is no material for continued reinforcement. They have to made aware of what they are doing and receive reinforcement.

Different operations have different names (i.e., loop arithmetic). After teaching basics they can receive chain reactions (as division) but not before being taught division skills.

What will happen if the piloting does not show the program to be beneficial? Students need more emphasis on basic skills and less concern about modern improvisions. that is, CDA.

Children in the upper grades should not participate. When they get to high school, they will have to get fundamentals before they can go into algebra.

As a whole, seventh graders need math skills that can link with high school math programs.

Children see it more as a game than as an educational tool.

Program is really an experience and is frustrating.

Why was CDA choosen?

CDA probably better used as a supplementary activity.

Beans, etc. are really something else.

Need to drop CDA and return to basic.

Guidebook is not available but should accompany the program.

May be more beneficial to those need of remediation.

No link between program and ITBS. It is not of much benefit to child functioning on level.

It is alright but basic is preferred to CDA.

The Houghton Mifflin seems to have greater benefit.

I utilize the program but in conjunction with Houghton Mifflin.

ITBS is solely word-problem oriented. CDA does not focus in this area.

A teacher's guide is needed which provides the how and why.

Different books create a problem, needs to be condensed to one book, and teacher's guide will help.

Some teachers are still negative about the program. Positive reinforcement might help delay some of the negative, but how it can be done is not clear.

Observation in school prior to in-service planning sessions will be beneficial.

Provide proof that the program is working to help prompt positive teacher attitudes.

As a whole, the workshop was entertaining.

Do not care for program.

Background has not been provided.

Children prefer regular math programs and other individualized programs rather than CDA.

Program does not motivate my students.

Use CDA Mathematics in conjunction with basal math books which I use to teach base concepts.

Program is good as an addition to basal instruction.

The prime shortcoming is that it attempts to utilize the only math instruction-format.

It is particularly good with underachievers because the operations are seen as fun.

Help is needed with the ability of the program to reinforce the basics.

Transfer of concepts as constructed in the program to practical application is a definite program weakness. A plus, however, is a thinking skill which the program is suppose to develop.

Table of content would assist teachers in locating particular skill area. An index would also meet the forestated purpose.

Make project a little bit more realistic for primary children.

Use children rather than objects or abstractions.

Program is good for discovery, creative and investigative teaching for potential development.

Students who are able to complete task quickly utilize CDA materials for class disruptive activity (suggest use of less provocative materials).

Linkage from operations, terminolgy, etc. from CDA to ITBS is not finite.

Materials need to be designed for students at different levels of functioning, in respect to ancillary materials not math concept.

Few additional self-check exercises would be beneficial.

Have consultants come in and demonstrate by working with children. Program is not talked about in all aspects.

Teachers working in math should be allowed to preview math programs prior to purchase.

Program should be a supplemental activity.

It is a great help with slower learners.

Activities generate greater interest among children.

In-service training was a greater benefit. A consultant should come into the classroom and work with children.

In-service training seems to be a one shot operation with no hands on in respect to students.

Other math workshops appear to be knocking CDA as a math program is delineated; but some of the same persons sing the praise of CDA with CDA consultants.

Utilization of CDA as a main program is a hinderance.

Program will be of a greater benefit as a supplement.

ITBS focuses on basic skills and CDA does not.

Program is confusing in attempt to link CDA to individualizations, prescriptions, etc.

It would be appreciated if the program were dropped.

Program does not lay the foundation that is needed for higher math.

More in-depth study as to the correlation with ITBS.

New achievement instrument as well as other measures utilized.

CDA program as delineated does not correlate with the math checklist.

Recommend starting the program in first grade and move it up with the pupils.

All teachers involved with students at various levels should have participated in the workshop sessions. A request was made during the workshop for consultants to visit the classrooms involved in the program; however, this has not occurred.

There is a big gap between classroom work and Title I placement. For example, the classroom teacher maybe working with fractions when the children do not know place value concerns.

Teacher's guide is inadequate. Additional materials have been required to teach certain things.

Recommend that the program be dropped next year.

There is a need for a clear directive to conduct follow-up session, that is, mini-workshops.

There is a lack of compatibility of the CDA materials and the Atlanta Public Schools' curriculum guide.

CDA seems appropriate for the primary level, but students at the seventh grade level need something more.

Additional in-service training like this session would be helpful. All teachers need to participate in this type session.

It is recommended that the school discontinue use of CDA and return to the math text series previously used (Houghton Mifflin).

Introducing the program schoolwide was less effective than it would have been to share the program in starting with the lower levels. Teachers were not prepared.

For the program to be implemented effectively, the teachers need to have an explanation of the overall program and what is expected of teachers and pupils as they progress. Also, demonstrations are needed, and some immediate follow-up activities with the teachers in the classroom need to be arranged.

Pupil progress charts are needed, and some books need D1 and E problem solving and computation.

All teachers should have attended the last workshop.

It is recommended that the CDA and instrumental enrichment programs be continued.

The consultants and leaders of the in-service session should be used again and more extensively if possible.

It is recommended that CDA be discontinued and the school return to the former math series. With this series, math around us was more easily connected with the ECD skills checklist and the minimum skills.

All teachers need to have the opportunity to attend workshops to personally learn about the program.

The session was not beneficial for teachers in schools having children in grades 1 through 5, since the materials applied to children in grades 6 and 7.

Trying to be more objective about it; have been shown how it coincides with the ITBS skills.

Have had to use supplementary books because not enough primary CDA skills are being taught; if we have to teach it, we should have enough books; if it is not required, we would prefer to go back to conventional text.

It would be great for supplementary materials and reinforcements.

Think students did not learn to add and subtract earlier with CDA probably because they did not get to it earlier in the text. If we are going to use it another year, I suggest we get the materials we need at the beginning of the school year. We really need the A books then.

Supplementary materials needed for reproducing provided by CDA. Do not always have the paper.

Children seem to be enjoying it and moving well from one skill to another since teachers better understand what to do.

Would like for someone to show correlation between ECD and CDA skills and how to coordinate the two (representatives from Connally had done it a little at CDA workshop).

Would like list of where ECD skills can be found in CDA, ITBS skills too in reference to CDA.

Why can't CDA be given a list of ECD skills and prepare a reference sheet? If they want to sell it, they should provide this service.

Need more workshops, and specialist need to come to school.

Need a sharing day before the beginning of third quarter.

CDA skills are not measured on ITBS.

The teacher's guide needs improvement. It needs to be more specific. In some cases pupils are moving through the materials too quickly.

Recommend another workshop for further use of the instrumental enrichment materials.

There is a concern for the acceptance of CDA program by the regular classroom teachers, and the degree to which it is really being used.

Delivery of the notebooks is critical. Progress books have been ordered but not received. Items of explanations are being given at each workshop that should have been part of the initial workshop training. Also there is a concern for the prompt delivery of needed materials. Another workshop like the last one needs to be scheduled for postplanning or preplanning for all teachers.

Teachers need to know what is available or where it is, and how to get it.

One teacher wrote the following four paragraph:

I first heard Dr. Robert Wirtz speak at the University of South Alabama about six years ago, and since then have been impressed with his most creative application of Bruner's and Piaget's learning theories to the study of mathematics.

As a primary teacher who is continually looking for new and better ways to help kids understand math, I feel that Wirtz has developed many models that do just that — his models help kids to move in their understandings from the concrete to abstract.

However, I feel that teachers need to develop concepts with kids in a way that fits their personal teaching style. In my few years of experience with kids, I have developed many of my own systems and games and ways of explaining mathematical principles to kids. And like Wirtz, I am convinced that the application of Piaget and Bruner's learning theories are of extreme importance. I find too that kids are turned on to color — lots of bold colors! — and extreme simplicity in learning a new concept. So while there are many of Wirtz' ideas that I implement in my primary program, I prefer greater attractiveness, color, and simplicity than the Wirtz' materials.

I feel that while there are many "paths" or "ways" to arrive at mathematical understandings, no one way turning the educational process into a religion. Rather, those adults who work most closely with children in the educational process (teachers), need always to be granted the freedom to create materials that take kids to the desired destination — to that of understanding.

Further staff development sessions following the new format were held in March, April and May. concerns arose concerning commitment, implementation, math teaching time and teaching format. Consequently, it was decided to create a questionnaire dealing with those items and other concerns.

The Emergency School Aid Act (ESAA) Mathematics Questionnaire was created jointly by the following persons: area staff, system coordinator of mathematics, research assistant assigned to the program, research assistants/associate assigned to CDA Mathematics schools, and Curriculum Development Associates (CDA) Program staff. The questionnaire was administered by the resource teachers to each of the ESAA special mathematics teachers in the twenty CDA Mathematics Program schools. The questionnaire was administered during the middle of May 1979.

___Primary
___Intermediate/Upper

CDA MATHEMATICS TEACHER QUESTIONNAIRE
MAY 1979

We would like your opinions concerning several areas of the CDA Mathematics project. Please read each statement and circle the dot (. . .) which most nearly agrees with your opinions about CDA Mathematics.

1. To what degree are you personally committed to the CDA Mathematics Program?

   Totally . . . . . . Not at all
   1 6

2. To what extent have you read/studied the CDA Mathematics materials?

   a. Resource Guides: Totally . . . . . . Not at all
   1 6

   b. Teacher Editions of student materials:

   Totally . . . . . . Not at all
   1 6

3. How well do you understand CDA Mathematics?

   a. Teaching Strategies: Totally . . . . . . Not at all
   1 6

   b. Scope and Sequence: Totally . . . . . . Not at all
   1 6

   c. Teaching Materials: Totally . . . . . . Not at all
   1 6

4. To what degree are you following the CDA lesson plan format of the CDA Mathematics Program? (In Teacher's Guide)

   Totally . . . . . . Not at all
   1 6

5. Are the instructional procedures in the CDA materials adqeuate for you?

   Totally . . . . . . Not at all adequate
   1 6

6. Were the instructional procedures/strategies demonstrated in the workshops adequate for you?

   Totally . . . . . . Not at all adequate
   1 6

7. To what degree are you implementing the CDA Mathematics Program?

   Totally . . . . . . Not at all
   1 6

8. How well can you demonstrate the teaching models?

Very well . . . . . Not at all
1 6

9. To what degree are you utilizing manipulatives?

Great degree . . . . . Not at all
1 6

10. What portion of the time allotted in your schedule for teaching math is devoted to teaching CDA Mathematics?

Full___ 3/4___ 1/2___ 1/4___ None___

11. What further assistance do you need to better implement the CDA Mathematics Program?

Suggestions: Scope and Sequence of CDA Mathematics Program_____

How to maximize use of CDA Mathematics Teacher Editions of student materials_____

How to maximize use of CDA Mathematics Resource Guides_____

How maximize use of teaching models_____

How to maximize use of manipulatives_____

Others: (Please specify)

_____

_____

12. Were sufficient CDA Mathematics materials available to you at the beginning of the school year? Yes_____ No_____

If not, when were materials received?

Middle of 1st quarter _____
End of 1st quarter _____
Middle of 2nd quarter _____
End of 2nd quarter _____
Never received _____

13. To what degree does lack of sufficient CDA Mathematics materials or late arrival of CDA Mathematics materials affect your efforts to implement the CDA Mathematics Program?

Greatly . . . . . Not at all
1 6

14. Have you had the materials necessary for student instruction as students progressed in the program? Yes___ No___

15. Briefly describe any other concerns/problems related to materials. Be as specific as you can, please.

_____

_____

_____

16. Would you participate in a comparative study regarding the CDA Mathematics Program versus other (textbook) math programs?

Yes___ No___ If yes, please sign your name.

_____
Signature

_____
School

CDA TEACHERS' MATHEMATICS QUESTIONNAIRE ANALYSIS

Table 2.7 provides an analysis of the responses by CDA Mathematics teachers to the questions. Not all teachers answered all questions, thus, the total number of teachers responding for each question is not always the same. The answers have been tallied for primary teachers and intermediate/upper teachers. Teachers had the opportunity of answering each question on a continuum from "totally" to "not at all." The responses were reviewed for primary teachers separately from the intermediate/upper group of teachers, and discussions are on each group separately. The questions were designed in order to elicit comments concerning teacher commitment to the math program as well as understanding of the program, the adequacy of materials, and the extent of the implementation of the math program in the classroom.

PRIMARY TEACHERS

Question 1: To what degree are you personally committed to the CDA Mathematics Program?

Among the primary teachers there were only seven teachers who indicated that they were totally committed, while 16 primary teachers indicated they were not at all committed. Forty-nine per cent of the 108 respondents were at the upper level of commitment, while 51 per cent were at the lower level of commitment. Thus, the primary teachers are split in their level of commitment at about the 50 per cent level.

Question 7: To what degree are you implementing the CDA Mathematics Program?

Fourteen primary teachers indicated they were totally implementing the program, and two teachers indicated they were not implementing the program at all. The majority of the teachers, 60 per cent, indicate their implementation of the program was about half or less.

Question 10: What portion of time allotted in your schedule for teaching math is devoted to teaching CDA Math?

Seventeen primary teachers, or 16 per cent indicated their full-time math teaching was devoted to teaching CDA Mathematics. Thirty-nine teachers, or 36 per cent, indicated that three quarters of their math teaching time was devoted to teaching CDA Mathematics. Twenty-eight teachers, or 26 per cent, indicated that only one-half of their math teaching time was devoted to teaching CDA Mathematics. Twenty-one, or 19 per cent, of the primary teachers responding indicated that only one-fourth of the math teaching time was devoted to teaching CDA Mathematics, and three teachers, or 3 per cent, of the primary teachers indicated that none of their math teaching time was devoted to teaching CDA Mathematics.

Thus, about 52 per cent of the primary teachers are teaching full or three quarters of their math teaching time utilizing the CDA Mathematics materials; 48 per cent of the teachers indicated that one-half or less of their time was devoted to utilizing the CDA Mathematics materials.

TABLE 2.7

CDA MATH QUESTIONNAIRE

MAY 1979

Number and Percent of Responses

Question	Total Responses Prim/Int	Primary: Totally	Primary: 1	Primary: 2	Primary: 3	Primary: 4	Primary: 5	Primary: Not at All	Intermediate: Totally	Intermediate: 1	Intermediate: 2	Intermediate: 3	Intermediate: 4	Intermediate: 5	Intermediate: Not at All
1. To what degree are you personally committed to the CDA Math Program?	230 108/122														
Number of responses:			7	16	30	19	20	16		14	12	25	25	24	22
Percent of responses:			6.4	14.8	27.7	17.5	18.5	14.8		11.4	9.8	20.4	20.4	19.6	18.0
Percent*				49.0			50.9				42.8			58.2	
2. To what extent have you read/ studied the CDA math materials?															
a. Resource Guides:	233 110/123														
Number of responses:			20	34	30	17	6	3		22	39	42	9	9	2
Percent of responses:			18.1	30.9	27.2	15.4	5.4	2.7		17.8	31.7	34.1	7.3	7.3	1.6
b. Teacher Editions of student materials:	224 107/117														
Number of responses:			39	28	11	16	10	3		40	30	23	14	4	4
Percent of responses:			36.4	26.1	10.2	14.9	9.3	2.8		34.1	25.6	21.3	11.9	3.4	3.4
3. How well do you understand CDA math?															
a. Teaching Strategies:	234 110/124														
Number of responses:			9	41	20	26	10	4		10	42	36	20	12	4
Percent of responses:			8.2	37.2	18.2	23.6	9.1	3.6		8.0	33.8	29.0	16.1	9.6	3.2
b. Scope and Sequence:	228 108/120														
Number of responses:			8	29	28	30	11	2		8	32	31	28	12	9
Percent of responses:			7.4	26.9	25.9	27.8	10.2	1.8		6.6	26.1	25.8	23.3	10.0	7.5
c. Teaching Materials:	226 109/117														
Number of responses:			9	35	26	23	12	4		9	44	27	18	13	4
Percent of responses:			8.3	32.1	23.9	21.1	11.0	3.7		7.6	37.6	22.3	15.0	12.8	3.4
4. To what degree are you following the CDA lesson plan format of the CDA Math Program?	228 109/119														
Number of responses:			9	25	36	19	13	7		6	18	36	27	20	12
Percent of responses:			8.3	22.9	33.0	17.4	11.9	6.4		5.0	15.1	30.2	22.6	16.8	10.1
5. Are the instructional procedures in the CDA material adequate for you?	230 109/121														
Number of responses:			1	16	14	15	32	31		1	13	23	24	30	30
Percent of responses:			0.9	14.7	12.8	13.8	29.4	28.4		0.8	10.7	19.0	19.8	24.7	24.7
6. Were the instructional procedures/ strategies demonstrated in the workshops adequate for you?	129 107/122														
Number of responses:			3	27	17	20	21	19		6	19	24	37	14	22
Percent of responses:			2.8	25.2	15.9	18.7	19.6	17.8		4.9	15.6	19.6	30.3	11.5	18.0
7. To what degree are you implementing the CDA Math Program?	225 110/115														
Number of responses:			14	28	25	26	15	2		11	25	28	26	13	12
Percent of responses:			12.7	25.5	22.7	23.6	13.6	1.8		9.3	21.7	24.3	22.6	11.3	10.4
Percent*				60.9			39.1				55.7			44.3	
8. How well can you demenstrate the teaching models?	222 108/114														
Number of responses:			10	28	27	20	18	5		10	24	32	24	15	9
Percent of responses:			9.3	25.9	25.0	18.5	16.6	4.6		8.7	21.0	28.0	21.0	13.6	7.8
9. To what degree are you utilizing manipulatives?	223 110/113														
Number of responses:			18	37	20	17	13	3		3	15	27	34	23	11
Percent of responses:			16.4	33.6	18.2	15.5	13.6	2.7		2.6	13.2	23.8	30.0	20.3	9.7
10. What portion of the time allotted in your schedule for teaching math is devoted to teaching CDA math?	222 108/114														
		Primary: Totally	Full	3/4	1/2	1/4	None		Intermediate: Totally	Full	3/4	1/2	1/4	None	
Number of responses:			17	39	28	21	3			16	24	26	39	9	
Percent of responses:			15.7	36.1	25.9	19.4	2.9			14.0	21.1	22.8	34.2	7.8	
Percent*				51.9		48.1					35.1		64.9		

Question

11. What further assistance do you need to better implement the CDA Math Program?

	Primary	Intermediate	Suggestion
Suggestions:	32	30	Scope and Sequence of CDA Math Program.
	47	32	How to maximize use of CDA Math Teacher Editions of student materials.
	41	29	How to maximize use of CDA Math Resource Gides.
	36	27	How to maximize use of teaching models.
	25	25	How to maximize use of manipulatives.

	Primary	Intermediate
12. How many years have you taught the CDA Mathematics Program?	Two: 52 One: 10 Less than one: 5	Two: 85 One: 16 Less than one: 8

13. Were sufficient CDA math materials available to you at the beginning of the school year?

	Primary		Intermediate	
	Yes	No	Yes	No
Number of responses:	78	27	80	32
Percent of responses:	74.3	25.7	71.4	28.6

If not, when were materials received?

	Primary	Intermediate
Middle of 1st quarter	10	9
End of 1st quarter	10	7
Middle of 2nd quarter	6	12
End of 2nd quarter	4	3
Never received	5	7

Number and Percent of Responses

	Total Responses Prim/Int	Primary: Greatly 1					6 Not at All	Intermediate: Greatly 1					6 Not at All
14. To what degree does lack of sufficient CDA math materials or late arrival of CDA math materials affect your efforts to implement the CDA Math Program?	199 85/113												
Number of responses:		19	12	12	12	22	9	17	21	11	23	15	26
Percent of responses:		12.7	25.5	22.7	23.6	16.6	1.8	15.0	18.5	9.7	20.3	13.3	23.0

15. Have you had the materials necessary for student instruction as students progressed in the program?

	Primary		Intermediate	
	Yes	No	Yes	No
Number of responses:	83	21	88	26
Percent of responses:	79.8	20.1	77.1	22.8

Number and Percent of Responses

	Total Responses Prim/Int	Primary: Like Very much 1					6 Not at All	Intermediate: Like Very much 1					6 Not at All
16. What is your perception of your pupil's attitude's toward CDA Math?	129 107/122												
Number of responses:		10	25	28	23	19	2	10	24	26	41	11	10
Percent of responses:		9.3	23.4	26.1	21.5	17.8	1.9	8.1	19.6	21.3	33.6	9.0	8.1

18. Would you participate in a comparative study regarding the CDA Math Program versus other (textbook) math programs?

	Primary		Intermediate	
	Yes	No	Yes	No
Number of responses:	15	92	22	91

55

*Percentage for upper and lower half of continuum.

About 49 per cent of the primary teachers are at least half way committed to teaching the CDA Mathematics Program, and 61 per cent of them were implementing the program at about the half way level. But when asked whether they were utilizing the CDA Mathematics Program to teach math, only about 52 per cent of the teachers indicated that they used three-fourths of their math teaching time utilizing CDA Mathematics materials.

The assumption must be made then that other materials are being used to teach the pupils enrolled in CDA Mathematics Program as well as CDA materials. These pupils are also being taught with CDA Mathematics materials at least one-fourth of the time, and other materials are being utilized in the classroom. In 48 of the primary classrooms, one-half to one-fourth of the students are having CDA Mathematics as a supplement rather than as the primary instructional materials. Therefore, it would not be possible to assume that gains or losses in math by the children in these classrooms can be attributed directly to CDA Mathematics alone.

Questions 4 and 5: To what degree are you following the CDA lesson plan format of the CDA Mathematics Program? Are the instructional procedures in the CDA materials adequate for you?

In questions 4 and 5, which deal with the CDA lesson plan format and the adequacy of CDA materials for the primary teachers, the majority of the teachers indicated they were in the middle between "totally" and "not at all" on their following of the CDA lesson plan format. Over half of the primary teachers indicated that the CDA materials were not adequate for them, and only one teacher indicated that the materials were totally adequate.

Question 13: Were sufficient CDA Mathematics materials available to you at the beginning of the year?

During the previous year, some teachers commented that they had not had sufficient CDA materials available to them at the beginning of the school year. In response to question 13, 74 per cent indicated that materials were available at the beginning of the school year.

Question 14: To what degree does lack of sufficient CDA Mathematics materials or late arrival of CDA Mathematics materials affect your efforts to implement the CDA Mathematics Program?

Only 86 primary teachers responded to the question. Nineteen teachers indicated they were greatly affected, and nine were not at all affected.

Question 15: Have you had the materials necessary for student instruction as students progressed in the program?

Of the 104 primary teachers responding to the question, 83 or 80 per cent indicated yes, while 21 or 20 per cent indicated no.

Question 16: What is your perception of your pupils' attitude toward CDA Mathematics?

Ten teachers indicated that the pupils liked it very much, and two teachers indicated they do not like it at all. The remainder of the 107 respondents indicated that they perceived the pupils were in the middle as to whether they liked it or did not like it, but were not on either extreme end. One may conjecture that the reason pupils' attitudes are perceived as being this way is that the materials apparently are used as supplementary to other mathematics instructional materials rather than the single mathematics instructional program in the classroom.

INTERMEDIATE/UPPER TEACHERS

Question 1: To what degree are you personnally committed to the CDA Mathematics Program?

For the intermediate/upper teachers, 14 teachers indicated total commitment and 22 indicated not at all committed. Forty-two per cent of the 122 intermediate/upper responding indicated that they were over half way committed to the program and 58 per cent were less than half way committed to the program, thus, splitting the group about evenly.

Question 7: To what degree are you implementing the CDA Mathematics Program?

Eleven upper elementary teachers indicated they were totally implementing the program, and 12 indicated they were not implementing the program at all. In the upper elementary program, 56 per cent of the teachers were implementing CDA Math Program at the half way or above level.

Question 10: What portion of the time allotted in your schedule for teaching math is devoted to teaching CDA Mathematics?

Sixteen intermediate/upper teachers indicated they were teaching math full time using the CDA Mathematics, nine teachers indicated none of their math teaching time was devoted to teaching CDA Mathematics. Twenty-four intermediate/upper elementary teachers indicated that three-fourths of their math teaching time was devoted to teaching CDA Mathematics; 26 teachers indicated that only one-half of their math teaching time was devoted to teaching CDA Mathematics, and 39 intermediate/upper elementary math teachers indicated that one-fourth of their math teaching time was devoted to teaching CDA Mathematics. Thus, 35 per cent of the teachers have only three-fourths or all of their math teaching time devoted to teaching CDA Mathematics, and 65 per cent of the intermediate/upper math teachers taught one-half or less of their math teaching time using CDA Mathematics materials.

About 42 per cent of the intermediate/upper teachers are at least half way committed to teaching the CDA Mathematics Program, and 56 per cent of them were implementing the program at about the half-way level. But when asked whether they were utilizing the CDA Mathematics Program to teach math, only 35 per cent of the intermediate/upper teachers indicated that they used three-fourths of their teaching time using CDA Mathematics materials. Thus, it would be difficult to attribute gains or losses in math competency to the CDA Mathematics Program alone, because 65

per cent of the teachers indicated that the majority of the time for teaching math was devoted to teaching materials other than CDA Mathematics materials.

Question 2: Teachers were asked to what extent they had read or studied the CDA Mathematics materials.

Eighty-four per cent of the intermediate/upper teachers indicated on the upper half of the continuum that they had studied the CDA Mathematics resource guides. In response to the question as to whether they had studied the CDA Mathematics teacher edition of the student materials, 40 teachers indicated totally, 30 the next line down the continuum, and 25 at the third dot, while four teachers indicated not at all, and four teachers just slightly. The greater portion of the teachers had studied the student materials. In response to understanding CDA Mathematics teaching strategies, the majority of teachers indicated on upper half of the continuum that they did not understand the teaching strategies. There was a movement toward the middle for the intermediate/upper teachers in understanding the scope and sequence of the program. In fact, nine of the teachers indicated that they did not understand the scope and sequence at all. As far as understanding the CDA Mathematics teaching materials, teachers were in the middle of the continuum concerning their understanding of the teaching materials.

Question 4: To what degree are you following the CDA lesson plan format of the CDA Math Program?

Six intermediate/upper teachers indicated that they were totally following the CDA lesson plan format; 12 indicated they were not following the format at all; and 20 indicated they were following the CDA plan format slightly. That is, 27 per cent of the teachers at the lower end of the continuum were not following the CDA lesson plan format.

Question 5: Are the instructional procedures in the CDA Mathematics materials adequate for you?

The majority of teachers indicated the instructional procedures were not at all adequate. Only one teacher indicated they were totally adequate, and 13 of the 121 intermediate/upper teachers indicated just below totally adequate.

Question 13: Were sufficient CDA Mathematics materials available to you at the beginning of the school year?

During the previous school year, numerous teachers indicated CDA Mathematics materials were not available to them at the beginning of the school year. In response to question 13, 80 intermediate/upper teachers indicated there were materials available to them at the beginning of the school year, and 32 teachers indicated there were not. Most intermediate/upper teachers indicated that by the end of the second quarter they had received the materials.

Question 14: To what degree does lack of sufficient CDA Mathematics materials or late arrival of CDA Mathematics materials affect your efforts to implement the CDA Mathematics Program?

Of the 113 intermediate/upper teachers responding to this question, 17 indicated that their efforts to implement the program were greatly affected, and at other end of the continuum, 26 indicated not at all. The remainder of the teachers' responses were located in the middle of the continuum.

Question 15: Have you had the materials necessary for student instruction as students progressed in the program?

Eighty-eight or 77 per cent of the intermediate/upper teachers indicated yes, while 26 or 23 per cent of the intermediate/upper teachers indicated no.

Question 16: What is your perception of your pupils' attitudes toward CDA Mathematics?

Ten intermediate/upper teachers indicated the pupils liked it very much, and 10 teachers indicated that they do not like it at all. The remainder of the 122 respondents indicated that they perceived that the pupils did not feel strongly one way or the other.

It may be theorized, if pupils do not feel strongly about the materials, this occurs because the CDA Mathematics materials are being used as the supplementary materials in the classroom and not the primary instructional materials alone.

Based upon the responses on the continuua, it maybe conjectured that teachers' responses would vary from one extreme to another. The expressed attitudes by teachers had not changed from the January questionnaire. A compilation of the teachers' responses follows.

TEACHERS' COMMENTS MADE ON THE ESAA SPECIAL MATHEMATICS (CDA MATH) MAY 1979 QUESTIONNAIRE

Teachers responded in the following manner concerning CDA Mathematics Curriculum:

ESAA Special Math is easy for most students. It arouses high interest and offers fun in providing fun in different ways in learning.

My greatest concern is that some of the pupils, when allowed to carry their books home, will return with work done that was impossible for them to do without the aid needed from the classroom. Some will cover too much work using the wrong directions.

Most often children find it too easy.

The materials and concepts are great for children who have a poor background in math or who have difficulty making the transition from concrete to abstract.

Most of the children found it beneficial only as a supplement.

The parents also had great difficulty understanding the concept of the whole program.

Special effort needed to be given to teachers entering the program before they are expected to teach CDA Mathematics, and they should have all materials before starting.

Too complex for teachers, too simple for pupils.

Not enough practice work or related activities.

Duplication is inconvenient because of the tremendous amount of paper that would be involved.

Complicated for those working below grade level.

It does not cover materials on Iowa Tests of Basic Skills (ITBS) or all on math checklist.

Students like or dislike; have shown no progress in math growth.

Would like to use another math program.

The children are not getting enough math foundation.

Word problems and more detailed information in Teacher's Guide are needed.

Needs more directions for pupils for each skill lesson. Not enough repetition of skills.

Concepts and problem solving should have some sequential order. Too haphazard.

They rely on beans too much.

Word problems not adequate.

Teachers Guide not descriptive enough.

Not enough repetition to master skills.

Jumps too much.

I had placement problems. I picked up kids where they had been last year, but their placement (some) was erroneous initially; so, they resented mightily being placed in a book they 'had already done.' Also, I have ignored my progress books, per se, and have used ditto copies in folders instead, so they go with ECD checklist, et al.

Lack of teaching directions in guide.

Pupils liked math textbook.

Not enough drill for each category. I do not believe that CDA Mathematics is meeting the needs of our children.

To me the beans are just another crutch taking the place of counting on fingers. CDA Mathematics is a crutch for students that are already performing below grade level.

It is not meeting the needs of the students. I suggest getting rid of the entire program other than for supplementary.

Need to have materials more readily at hand. CDA materials were too slow arriving.

The children especially enjoy the manipulatives.

The teacher's edition is not very explicit nor very detailed.

Most students were very receptive and enthusiastic.

Instructions in the teacher's edition are not adequate.

Concerning whether instruction was affected, Pupils enjoyed some parts, but progress does not improve.

Inadequate materials.

I find that CDA Mathematics is not functional.

The boys and girls do not really take this new concept seriously enough, they think it is only a fun activity.

Most children have problems understanding the sample exercise. The problem is following directions.

Some of the materials in the black book should be able to be dittoed material, so they could be more helpful to the teacher.

They are quite satisfied with it as a supplementary source or fun activity.

There are no reading problems and does not prepare students for ITBS.

Students do not like it. (That was the comment after the teacher had marked on the question about the perception of student's attitudes in the middle of the continuum indicating pupils neither strongly for nor strongly against.)

CDA Mathematics does not prepare students for advanced math in upper grades and high school. Does not prepare students for standardized test.

My students do not care for CDA Mathematics. (This teacher made the comment, and on the paper marked in the middle in answering the questions whether the students like it very much or do not like it at all.)

I feel CDA Mathematics is a waste of time unless taught in a remedial program; all children do not need this.

Teachers have not thoroughly read the materials.

The teacher's guide does not have enough directions.

My students this year have much greater difficulty than those last year.

My children do not seem to want to implement the teaching strategies as shown in the workshops, they feel like they are too much trouble.

They dislike using manipulatives, although I feel they need to.

The instructions have too many alternatives, and directions are not adequately printed.

Some of the children like it because it is very easy.

The beans are not safe to use with small children because small objects such as the beans can be placed in the ear, nose, and mouth.

Instructions are poorly demonstrated.

This is not my job, my job is to teach from good materials. Too broad and unattractive for lower grades.

Lack of motivation. Does not prepare children for ITBS.

The program is difficult for each individual to work independently in my third grade group.

I need a teaching guide to show how topics are introduced, to explain, and to make use of word problems.

I do not like three books for each child; B1, B2, etc. There should only be one.

Guides need to be more specific as to when a skill is introduced. There should be one book instead of three.

Could be used as remedial math.

I hate it. Would rather completely divorce myself from this program. Not enough teacher direction.

All children will get placed in the same level of books regardless of abilities.

We have been in this program for two years with no guide.

The program is not working with our children.

A teacher's guide that gives a thorough explanation of procedures is needed.

Too much of the material is not adequately provided with background information.

They (pupils) like it but do not seem to push ahead as much as they should.

The children do not work ahead individually while I am trying to help others. This problem is mostly discipline. I think the program is great for self-disciplined people, but not for others.

One thing I do not like is the lack of explanation or examples.

For some pages, when students are working ahead, one student or a few would be looking up information in the manuals and would lose the rest of the class in discipline.

Again, I say it is better for the aggressive and self-disciplined person, and not so good when a child needs practice in that area.

Many students and parents feel it is too simple.

I feel that the school's math book should stick to the basics and provide other related materials.

Lack of directions and consistency.

I feel that the materials are not consistent, nor are they adequate for the upper and middle grades students.

Can take it or leave it.

To better implement the CDA Mathematics Program, write complete directions and illustrations for students to follow.

Lack of word problems to be read by pupils.

I do not believe CDA should be a total math program, it seems supplemental.

I do not like the CDA Mathematics Program, instructions are not clear as to how to teach the materials. It seems disorganized to me.

To better implement the CDA Mathematics Program, a better teacher's guide is needed.

I would like to see more audio-visual aids centered around CDA Mathematics.

Majority of the students who understand the CDA Mathematics seem to like it.

Instructions should be more vivid. It does help a child to think, but it does not assist enough in needed skills.

There should be some correlation between the types of math problems pupils will have on a standardized test.

On the question of pupil's attitude toward the CDA Mathematics, one teacher wrote, depends on teacher's enthusiasm.

To better implement the CDA Mathematics Program one teacher wrote she, needed assistance on how to individualize.

CDA Mathematics is used as a supplementary material.

Concerning the workshops, one teacher indicated, Most were boring; the workshop did not aide me for the students I teach. Self-efficient. Some presentations confusing because of inadeqate presentation basically. Those were the skills being used in my classroom but different terminology.

Concerning manipulatives, one teacher wrote, The type of students whom I teach use manipulative materials to get rid of frustration.

Concerning the time allotted, a teacher wrote, I use a variety of techniques for my math class.

When asked about pupils' attitudes toward CDA Mathematics, the teacher indicated, They do not like it at all, and then wrote Too few instructions for the students. Good materials but it is not designed for students with poor background in math. On other problems and concerns the teacher wrote, too much preparation on the part of the teacher, duplicating materials, etc. Also, given directions, my students learn quite well for my techniques and materials.

Too many levels to successfully use that type of program for materials.

My experience with CDA Mathematics has been that pupils cannot translate this math to conventional math.

Students in general like the format of the books, etc.

More directions should be provided in all the math books. Some pupils like it; some do not.

Please give some teaching plan.

Children find it confusing and boring with no illustrations or colors. The materials are too unorganized.

It is hard to find the thermofax paper and the ditto paper to use the Drill and Practice. Also, not enough sequency of skill difficulty.

Work books were available at the beginning of the year, but beans and sticks were very scarce.

I used SRA along with CDA.

To better implement the CDA Mathematics book, one teacher suggested utilization of another math series such as SRA.

Teacher's guides are needed to better implement the CDA Mathematics Program. I would like to see a compact and simplified teacher's guide. Teacher's edition may not be acceptable to those teachers who had difficulty in math. Several things in the teacher's edition need to be explained further.

I find it unnecessary to have materials scattered in so many different places.

To plan CDA lessons, it is necessary to take from many sources. I feel it is wasted effort when all materials could be combined more concisely.

The materials are good as long as the child has already been exposed to the various components of math before going into the CDA Mathematics materials.

I do not feel the CDA Mathematics Program is meeting or has met the needs of my children.

Children get bored with sameness. Not colorful enough for young children.

Does not cover enough areas in details, that is methods, linear and liquid measurement, word problems, and too many books to keep up with and count.

I think CDA Mathematics should not take the place of the whole math program in a school.

Students complain about no written directions in their books.

CDA Mathematics does not prepare the students for the ITBS.

Program does not address real life problem situations.

Insufficient training of staff to implement program. Workshops held for teachers were not well planned in terms of sequential training for teaching the program.

Program seems to be designed for primary and remedial children. Should contain work for K-8, at least, so that bright students above the sixth grade level would be challenged. (Note: This teacher indicated after the statement about pupils being challenged that there were materials available as necessary for student instruction as students progressed in the program.)

Good as added help.

Teacher has to spend too much time with materials. There is too much material to be handled.

Costs too much to implement the program — time and money.

Materials that are not so costly to use are the materials needed which would make the CDA Mathematics Program better.

The lazy ones like it. It is easy.

A teacher aide in the classroom would help to implement the CDA Mathematics Program.

Students' books do not have enough instructions. My problem was lack of material — stencils, fluid, and paper.

It is my opinion that the CDA Mathematics Program will not be of any help to my sixth graders because they have gone too far with a different concept of mathematics.

The CDA Mathematics is no help to the students when taking the ITBS.

As a teacher in the Atlanta Public School System, I sometimes feel the test scores and not results is what interests the Board most.

I feel that the CDA Mathematics Program does not prepare the students for the ITBS.

The students think it is great.

The pupils like the idea of having multiplication and division in grade 1.

There is a problem that the students constantly have a desire to eat the beans.

Items are needed for metric measuring (tapes and meter sticks).

I feel that I can use the textbook more effectively and would participate in a comparative study if allowed to use the textbook.

There are too many skills omitted in the CDA Mathematics Program to give adequate instructions.

The students are required to show progress on the ITBS test, therefore, I feel that the CDA Program does not fill the need.

Page formats or layouts by grades, etc. are too time consuming to explain (and sometimes too complex for pupils) relative to ultimate benefit desired.

My students work well with CDA Mathematics pupil books, however, more math word problems should be included in CDA Mathematics because this is their weakest area.

CDA Mathematics is good for a supplementary program, and not for the basal program.

If this was the only math taught, the student would never pass the Iowa Test of Basic Skills.

There is no scope or sequence to the CDA Mathematics.

Need further assistance how to maximize use of teacher guides in making lesson plans, and correlation of components of the CDA Mathematics Program.

Some of the minimum skills listed on the ECD checklist for the Atlanta Public Schools are not found in the CDA Mathematics Program.

The math resource book would be more helpful if dittos were given for follow-up lessons.

I found that my pupils are unable to transfer skills or correlate skills to other forms of math.

A better teacher guide would also be a great help.

This math program would make a great supplement to another math program; it could also be used with low or slow achievers.

We need answers to Drill and Practice Pages.

More explanation of pupil workbook, we need teacher guide to the student workbooks.

We need directions for teachers.

I do not understand how to find information to teach and explain the pages in the student workbooks. It is much too difficult to locate the information I need — if indeed it is somewhere in all the materials.

On the May 1979 questionnaire, some teachers responded with their names on the forms indicating willingness to participate in further study.

Using this information, their math pupils for the 1978-79 year were identified. Sixteen of the 20 schools were included. The total mathematics age achievement quotient (AAQ) gain on the Iowa Tests of Basic Skills (ITBS) was computed comparing the pupils' 1977-78 and 1978-79 ITBS scores.

For each teacher the personal responses to the questions of personal commitment, format, implementation and time using CDA Mathematics and format during math teaching time was indicated. Table 2.8 provides a compilation of the teacher and pupil data. It can be seen that pupil gains ranged from -13 to +10 AAQ points for a class over the year. Of the 44 classes 30 lost AAQ points. For the 1,029 pupils included in this group, there was a loss of two AAQ points during the 1978-79 school year.

A correlation of four teacher variables and four pupil variables is found in Table 2.9 The teacher variables are: (1) Personal commitment, (2) Use of CDA Mathematics Format, (3) Teacher CDA Mathematics implementation, and (4) CDA Mathematics class teaching time.

The four pupil variables were based on their performance on the ITBS in the spring of 1979. The variables are: (1) Pupil Math Concepts, (2) Pupil Math Problems, (3) Pupil Math Composite, and (4) Pupil Math Composite Gain 1978-79.

Variables one and four and two and four are significantly correlated in a negative manner since teaching time (1 to .25) is inverse to commitment High (1) — Low (6) and use of CDA Format — High (1) — Low of (6). There was no significant correlation between teacher variables and pupil performance variables.

Thus, there was correlation between teacher variables, and, of course, between the Pupil Math Problems and the Composite Math Score on ITBS.

However, there was no correlation between any of the teacher factors and the pupil performance on the ITBS.

Objective 3

Teachers participating in the Special Math Project will become more proficient in terms of math-teaching competencies and develop more positive attitudes toward mathematics as determined by a teacher questionnaire administered in May 1979.

In May 1979, an attitude questionnaire was administered to teachers in the program. Table 2.10 shows the results of that questionnaire separated into primary and intermediate groups. Overall, the change in attitudes was not as great as might be anticipated. More teachers in both groups indicated they were undecided or did not take advantage of more opportunities "to teach math" in other subject areas.

More teachers indicated their math skills either did not improve or they were undecided about that improvement as they worked through the problems with pupils. Rather than decrease their anxiety about math, teachers indicated in greater numbers their attitudes were about the same or had an increase in anxiety toward math. Primary teachers indicated that they were able to acquire new or different insights toward solving math problems using this program. Both primary and intermediate teachers indicated

TABLE 2.8

IDENTIFIED CDA MATH TEACHERS AND PUPILS GAINS IN MATH AAQ

Teacher	School	Personal Commitment High 1	Personal Commitment Low 6	Format High 1	Format Low 6	Implementation High 1	Implementation Low 6	Class Time Teaching High 1	Class Time Teaching Low .25	N	78-79 Total Math Gain (AAQ)
Teacher	Arkwright	6		6		6		1		25	-10
Teacher	Arkwright	3		3		3		.50		25	-1
Teacher	Beecher	6		4		1		.75		27	-4
Teacher	Beecher	3		4		4		.50		21	0
Teacher	Ben Hill	4		5		2		.75		26	-2
Teacher	Ben Hill	5		3		5		.75		23	-3
Teacher	Ben Hill	3		3		3		.25		24	-1
Teacher	Ben Hill	5		5		5		.25		27	0
Teacher	Ben Hill	4		3		2		.75		25	-2
Teacher	Ben Hill	5		5		4		.50		25	2
Teacher	Ben Hill	3		2		2		.75		28	-3
Teacher	Ben Hill	5		4		5		.50		22	6
Teacher	Collier Heights	5		5		4		.50		27	-5
Teacher	Collier Heights	5		5		5		.25		14	-5
Teacher	Collier Heights	5		5		5		.50		26	10
Teacher	Collier Heights	6		4		4		.25		26	0
Teacher	Connally	3		3		3		.75		19	4
Teacher	Connally	1		4		2		.75		26	-5
Teacher	Connally	3		3		4		.25		29	-4
Teacher	Connally	2		2		2		.50		29	-4
Teacher	Connally	1		1		1		.75		27	0
Teacher	Continental Colony	2		2		1		.75		1	-1
Teacher	Continental Colony	2		3		2		.75		18	-5
Teacher	Continental Colony	2		5		2		1		19	-7
Teacher	Continental Colony	2		3		2		.75		20	0
Teacher	Continental Colony	5		2		3		.50		63	-2
Teacher	Fain	1		2		2		1		18	-2
Teacher	Fickett	3		2		1		1		1	8
Teacher	Harris	2		3		1		1		13	3
Teacher	Harris	2		2		3		1		12	0
Teacher	Harwell	3		3		3		.50		24	-4
Teacher	Harwell	5		3		3		.25		19	-1
Teacher	Peterson	1		3		1		1		2	-5
Teacher	Peterson	2		2		2		1		23	0
Teacher	Peterson	3		2		1		1		80	-1
Teacher	Stanton, F. L.	1		2		1		1		23	-3
Teacher	Stanton, F. L.	2		2		2		.75		15	-13
Teacher	Towns	5		6		6		.75		24	-3
Teacher	Towns	3		2		4		.50		25	-9
Teacher	Towns	4		3		3		.25		15	-6
Teacher	Venetian	1		3		2		.50		23	5
Teacher	White	4		4		4		.25		22	-5
Teacher	White	1		1		1		.75		30	0
Teacher	Wright	1		1		1		.75		18	-3
										Total 1,029	-2

TABLE 2.9

INTERCORRELATIONS AMONG EIGHT TEACHER AND PUPIL VARIABLES

		1	2	3	4	5	6	7	8
1.	Teacher's Personal Commitment	1.0000	0.6721 (45) P=0.000	0.7185 (45) P=0.000	-0.4605 (45) P=0.001*	0.2327 (45) P=0.062	0.2031 (45) P=0.090	0.2210 (45) P=0.072	0.0188 (45) P=0.451
2.	Use of CDA Format		1.0000	0.6966 (45) P=0.000	-0.2590 (45) P=0.043*	0.0659 (45) P=0.334	0.0328 (45) P=0.415	0.0575 (45) P=0.354	0.1245 (45) P=0.208
3.	Teacher CDA Implementation			1.0000	-0.5047 (45) P=0.000	0.0926 (45) P=0.273	0.0361 (45) P=0.407	0.0675 (45) P=0.330	0.0042 (45) P=0.489
4.	CDA Class Teaching Time				1.000	0.1123 (45) P=0.231	0.1932 (45) P=0.102	0.1620 (45) P=0.144	0.0276 (45) P=0.429
5.	Pupil Math Concepts '79					1.0000	0.9370 (45) P=0.000	0.9826 (45) P=0.000	0.1948 (45) P=0.100
6.	Pupil Math Problems '79						1.0000	0.9841 (45) P=0.000	0.3478 (45) P=0.010*
7.	Pupil Math Composite '79							1.0000	0.2800 (45) P=0.031*
8.	Pupil Math Composite Gain 1978-79								1.0000

*P < .05

VARIABLES IN CORRELATION MATRIX

1. Teacher's Personal Commitment
   Rated High (1) — Low (6)
2. Use of CDA Format
   Rated High (1) — Low (6)
3. Teacher CDA Implementation
   Rated High (1) — Low (6)
4. CDA Class Teaching Time
   Rated High (1) — Low (6)
5. Pupil Math Concepts - 1979 ITBS
6. Pupil Math Problems - 1979 ITBS
7. Pupil Math Component Score - 1979 ITBS
8. Pupil Math Composite Gain - 1978-1979 ITBS

TABLE 2.10

CDA MATH
(ESAA SPECIAL MATHEMATICS)
TEACHER OPINIONNAIRE

Questions to ESAA CDA Mathematics Teachers	Primary Level			Intermediate Level		
	Yes	No	Undecided	Yes	No	Undecided
A. Have you found the procedures, materials, techniques, etc. helpful in individualizing math experiences for your students?	60	37	13	51	31	19
B. Have you found it possible to be more accepting of students' answers (to math problems) even if the answer was other than the expected answer?	56	33	19	54	29	15
C. Have you been able to acquire new (or different) insights toward solving math problems?	61	35	12	43	44	6
D. Have you found the intense focus on math language development (full fact family; responding by making a full statement; etc.) helpful in your teaching of math?	44	42	22	38	46	13
E. Have you found that your students look forward to math lessons more positively than they did prior to the introduction of CDA math?	29	58	17	30	57	11
F. Have you found that the materials, procedures, techniques, etc. assist students in developing thinking skills?	53	32	19	54	34	10
G. Have you detected students transferring skills and						

Questions to ESAA CDA Mathematics Teachers	Primary Level			Intermediate Level		
	Yes	No	Undecided	Yes	No	Undecided
knowledge acquired during math instruction to other disciplines? (e.g., maps and graphs in social studies and language arts).	34	52	20	25	58	24
H. Do you find yourself taking advantage of more and more opportunities to "teach math" (i.e., identify math applications in other subject areas)?	49	39	15	41	47	12
I. Have you found that your math skills improved when you worked through the activities just as the students did to arrive at the answers, as opposed to reading a lot of words about how the author arrived at the answer(s) given in the teacher's materials?	45	48	12	41	46	12
J. Having taught CDA math for a year, do you now feel a necessity for increasing your knowledge of mathematics?	42	42	23	36	48	12
K. Having taught CDA math for a year, do you now feel a necessity for developing improved teaching strategies/techiques to teach mathematics?	57	24	25	45	37	13
	Less	Greater	About the Same	Less	Greater	About the Same
L. Have you found that your anxiety level about teaching math is:	28	22	56	25	22	52

positively that they had found the procedures and materials helpful in individualizing the instruction. Also teachers indicated they were more accepting of a variety of pupil's answers. They still do not see pupils looking forward to math lessons. In summary, the ESAA Special Mathematics Program utilizing the CDA Mathematics curriculum has been less than a success. There continues to be teachers in the program who do not wish to be in th program, who do not philosophically believe in the program, and who are not committed to the program. Originally, teachers were asked to give up all other textbooks and teach using only the CDA Mathematics materials. However, in the May 1979 questionnaire, only about 52 per cent of primary teachers and 35 per cent of intermediate teachers were using the CDA materials over one-half of their math teaching time. Other mathematics materials or other mathematics textbooks were being used as the basal materials in over one-half of the CDA Mathematics classrooms.

Further, when asked to what degree the program was being implemented, 40 per cent of primary teachers responded less than half, and 40 per cent of intermediate teachers responded less than half.

Teachers indicated unhappiness concerning the availability of materials, the in-service workshops, the organization of the materials and even the content of the materials. It follows that if classroom teachers are unhappy about the program they are to be teaching, and if other strategies and materials are available, that an alternate program will be used rather than the program selected which they do not like.

The progress of pupils enrolled in the school designated to be taught using the CDA Mathematics Program has been no better than the pupils in other math series in other schools in the System. The CDA Mathematics pupils began the previous year at an AAQ 3 points higher than the other pupils. Both groups lost 3 AAQ points the first year and 2 AAQ point the second year. Thus, the relative standing of the two groups remains the same.

For the high investment in materials and staff development sessions, there has been no tangible payoff in increased student performance as measured by the ITBS. The program as it is being used in the system is not producing the results anticipated before its inception.

CONCLUSIONS

Based upon the data presented in the preceding sections for the ESAA Special Math students using CDA Mathematics materials, the following conclusions were drawn:

1. Matched ITBS scores for ESAA Special Math students had a project loss of 3 AAQ points.

2. In comparing three-year matched data, ESAA Special students lost 3 AAQ points from 1977 to 1978 and 2 AAQ points from 1978-79 which matched the non-CDA Math students in the System.

3. In the 1978-79 school year, ESAA Special Math pupils who achieved most, using CDA Mathematics materials were those with AAQ below 89. The gain was 1 AAQ point.

4. In the 1978-79 school year, ESAA Special Math pupils who achieved least using CDA Mathematics materials were those with AAQ above 110. The gain was -6 AAQ points.

5. The project gain was -2 AAQ points. This was 1 AAQ point better than the 3 AAQ points lost the previous year. Thus, the objective was achieved.

6. On the Self Concept as a Learner scale, pupils made a gain in self-concept which was significant at the 0.05 level, though the change is inconsequential due to the large number of students in the sample. The objective was achieved.

7. Teachers indicated that they were not personally committed to the ESAA Special Math using the CDA Mathematics Program, were not fully implementing the program, and half the time were using other materials to teach mathematics.

8. There was no significant correlation between four teacher variables and four student variables on a selected sample of 1,029 pupil, and 44 teachers. In this correlation, no teacher variable affected the performance of pupils on the ITBS.

9. Teachers perceived that pupils did not feel particularly positive or negative about the CDA Mathematics materials. This may be due to the apparent high incidence of supplemental use of CDA materials rather than basal approach to using the materials.

RECOMMENDATIONS

Based upon the data presented, the following recommendations are made:

1. The program be continued for one additional year of ESAA funding. Teacher attitudes, implementation, and use of materials should be carefully monitored in the spring of 1980.

2. The modified in-service model should be carefully monitored to determine its effectiveness, and the amount of information and feedback given to other CDA Math teachers.

3. Investigate teacher attitudes towards using ESAA Special Math CDA materials as supplementary math materials either in a few selected grades or in grades 1 through 7.

4. Explore the cost effectiveness of the Special Math Program as a total program as compared to use as supplementary materials.

5. Investigate the cost effectiveness of using CDA Mathematics materials as supplementary materials in comparison to other available supplementary math materials.

APPENDICES

LESSON PLANS
CONTENTS

I. THE TEACHER'S ROLE IN THE ESOL PROGRAM

- A. ESOL Centers
- B. Definition of an ESOL Pupil
- C. Importance of Teacher-Parent Relations
- D. Diagnosis and Classification of ESOL Pupils
- E. The ESOL Teacher as a Liaison in the School
- F. Contrastive Analysis in the ESOL Program
- G. The ESOL Teacher as a Liaison in the Community

II. COURSE OF STUDY FOR THE ESOL PROGRAM IN THE ATLANTA SECONDARY SCHOOLS

- A. Aims
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  3. Vocabulary (Cultural) Content
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  1. The Sound System
  2. Structure
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IV. ADDITIONAL ITEMS TO BE TAUGHT

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- A. Textbooks
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APPENDIX A

THE TEACHER'S ROLE IN THE ESOL PROGRAM

A. ESOL CENTERS

In the past several years, the City of Atlanta has acquired an ever-increasing number of international visitors and residents. To deal with the situation, the Atlanta Public Schools offers an English-to-Speakers-of-Other Languages (ESOL) Program, wherein a non-English-speaking child is afforded the opportunity to acquire a meaningful education.

Because of the limited number of ESOL centers, the pupils who would need this kind of program have the right to attend a school which offers ESOL classes, even if it means crossing area lines.

B. DEFINITION OF AN ESOL PUPIL

The first step to be taken upon enrollment of a non-English-speaking pupil is a preliminary evaluation by an ESOL teacher of the child's English language proficiency.

If the pupil has had little or no English instruction in his native country, the teacher will try to place him in as many ESOL classes as are offered in high school. He will also be placed in other classes, such as math, physical education, art, etc. where a large amount of verbalization is not required, and where he will also be obtaining credit.

The pupil who has a certain number of years of English instruction in his native country will be placed in one of two ESOL classes, depending on his particular needs. With the advanced pupil, an ESOL class may only be necessary for a quarter or so, as a means to help the pupil make the transition in language and culture.

C. IMPORTANCE OF TEACHER-PARENT RELATIONS

After the teacher has acquainted herself with her pupils and their needs, she will try to visit their homes and meet with their parents. In this meeting, she can inform them of services available to them, such as ESOL classes for adults. If the parents are Korean-, Chinese-, or Spanish-speaking, she will make available to them a handbook, written in their native language, of the rules, regulations, and other important information about the City of Atlanta high schools. If the teacher does not speak the language of a particular family, she will try to find someone who does and is willing to act as interpreter, hopefully, throughout the year. The teacher will keep in contact with the family and help out in such situations as a visit to the doctor, filling out immigration papers, etc.

D. DIAGNOSIS AND CLASSIFICATION OF ESOL PUPILS

In order for the teacher to select the methods and materials to be used with each pupil, she will administer a diagnostic test, which will also serve as a pretest and posttest. This will help her determine the particular needs of the pupils as far as skill development is concerned. For example, will there be an emphasis on listening and speaking only, emphasis on reading, etc.

Because the first approach to language should be through the ear, the teacher's role with the beginning pupil will demand a lot of her personal time and attention. At the same time, she has other pupils in the classroom who are at more advanced levels, but who also require her undivided attention. Even though an ESOL class may have only 13 pupils at one time, this constitutes for 13 different levels because of the varied linguistic and educational backgrounds. Added to this is the fact that the teacher has to divide her time between schools and sometimes cannot meet all of her pupil's needs.

To try to cope with this situation, the ESOL teacher can use some audio-visual equipment available to her, such as tape recorders, flashcard readers, and filmstrips -- these give the additional practice needed to reinforce the material she has presented. The teacher can also avail herself of student aides who can help with particular pupils. Oral practice in pairs can also be used effectively with materials already introduced by the teacher. In another situation, a more advanced pupil can help one with less proficiency and at the same time practice his own skills and gain confidence in himself.

E. THE ESOL TEACHER AS A LIAISON IN THE SCHOOL

The ESOL teacher must also act as a mediator between the pupils and other teachers and personnel. In some cases, there is a lack of sensitivity to the problems of the culturally different child, and it is up to the ESOL teacher to try to alleviate the tension, and hopefully open up the channels of communication.

At the same time, the ESOL teacher should make herself available to try to help the pupils with any difficulties they may have in other subjects. This is sometimes difficult to do because of her limited time at each school.

F. CONTRASTIVE ANALYSIS IN THE ESOL PROGRAM

It is desirable that the ESOL teacher, who has many different nationalities in one room at one time, be well informed about the first language of all her pupils. Contrastive analysis, which is a technique for organizing the facts of strutural congruence between two language systems, provides the teacher with better understanding of the specific needs of her pupils in struggling to master the patterns and structures of American English.

This understanding can help the teacher who, for instance, is presenting the English post tonic "t" and "d" in words like "Betty" and "meadow" to Spanish-speaking pupils. If the teacher knows that the most similar Spanish sound is not "t" or "d," but "r" as in "beriberi" and "mero," and makes the comparison, she can obtain a more acceptable pronunciation. (Note: The Spanish "r" is not equivalent to the English "r.")

Learning problems exist not only in the area of pronunciation, but in the grammar of every language. For example, the Chinese language has no articles. (Although it has many classifiers used before a noun and after a number.) This presents a difficulty for Chinese speakers in dealing with "a," "an," and "the" in simple sentences like "I'm going to the store."

G. THE ESOL TEACHER AS A LIAISON IN THE COMMUNITY

Because English is the language of school instruction and of the surrounding community, it must be learned quickly. Attention and priority are given by the teacher to the structure and vocabulary items needed not only for participation in other classes, but also for making a smoother and faster personal adjustment in their communities.

It is, therefore, important that through the teaching of the English language, they are also introduced to the cultural similarities and differences. These will not only bring about cross-cultural respect and awareness, but also will facilitate the learning process as it becomes meaningful to them. To reinforce this approach to language learning, the ESOL teacher uses activities such as field trips, informal gatherings with American pupils, international clubs, and demonstration of native songs and dances in a most effective and enjoyable manner.

It is very important also that the pupil retain pride in his own culture as he makes his adjustment to the language and culture of native Americans.

COURSE OF STUDY FOR THE ESOL PROGRAM IN THE ATLANTA SECONDARY SCHOOLS

In defining the aims and goals of the ESOL program in the Atlanta secondary schools, we have followed the recommendations given by Mary Finocchiaro in English as a Second Language: From Theory to Practice. The objectives proposed by Ms. Finocchiaro are designed to help the non-English-speaking pupil recognize and produce language which is not only correct, but also appropriate in the social situation in which it is being used.

A. AIMS

1. The progressive ability to understand the English he/she would use at his age when spoken by a native English speaker.
2. The progressive ability to carry on a conversation with a native English speaker on topics of interest to persons of his age groups.
3. The progressive ability to write correctly and perhaps creatively in English.
4. The information, knowledge, attitude, and insight to appreciate the cultural similarities and differences (if such exist) of English-speaking people.

B. LEVELS

The levels that were designated for this program range from I to V, and correspond with the course of study presented in Robert Dixon's Modern American English series.

Level I is designed for the pupil who has had little or no English instruction in his native country. This is the beginners level.

Level II would fall in the intermediate category, and Level III in the intermediate — advanced category.

Levels IV and V are for the advanced pupils who could probably be placed in a regular English class, but who for a number of reasons have been assigned to an ESOL class. In most cases, the pupils are new arrivals who have completed a few years of English instruction in their native countries, but need reinforcement in using and understanding spoken American English. At the same time, they may need the reassuring and comfortable atmosphere of an ESOL class while making the transition in language and culture.

In this level, you will also find pupils who have previously been enrolled in an ESOL program, and have once again been assigned or chosen to come back to an ESOL class. Some of the reasons for this are: (a) a need to reinforce certain basic skills, (b) heavy teacher loads in regular English classes, and (c) difficulty in adjusting to a regular English class.

C. EACH LEARNING LEVEL SHOULD INCLUDE:

1. An analysis of its aims and goals (the terminal behavior the pupils will be expected to acquire).
2. A list of the language items to be taught (phonology, structure, and vocabulary).
3. A list of the cultural concepts to be discussed.
4. An analysis of the language skills to be developed (listening with understanding, speaking, reading, and writing).
5. A description of the activities and meaningful situations through which the language items will be introduced and practiced.
6. Suggestions for evaluation (testing) of the pupils language growth.
7. Sources for teacher reference and pupils' text.

D. PRIORITY IN THE CURRICULUM SHOULD BE GIVEN TO:

1. All the sounds and the entire phonemic system.
2. The basic work-order structure.
3. The inflections which are most frequent.
4. The function words.
5. The vocabulary which: (1) will help the pupils practice the structures, (2) is useful in the pupils' immediate lives and environment, and (3) will strengthen their conviction that English can be used to express the same ideas they express in their native tongue.

SUGGESTED CURRICULUM GUIDE
LEVEL I

1. THE SOUND SYSTEM

a. The vowel and consonant sounds in English

(1) Vowels — Modern American English recognizes and studies 12 different vowels — five of these the basic vowels and seven other vowel sounds indicated by sounds of the International Phonetic Alphabet (IPA). However, it is recommended that all the vowel sounds in English be taught.

(2) Consonants — classification of consonants as voiced or voiceless, and the teaching of the cognates.

b. The two basic intonation patterns

(1) Rising-Falling Intonation

(2) Rising Intonation

c. The characteristic stress and rhythm of English (reducing and contrasted forms in the grammatical patterns taught).

2. STRUCTURE

a. Verbs and Verb Phrases

(1) Statements with the Verb To Be:

This is not a house. This is a chair. What is this?

(2) Negative Statements:

This is not a house. This is not a chair. This is a shoe.

(3) Question Form:

Is this a shoe? No, this is not a shoe. This is a house.

(4) The Simple Present of Be with contractions and pronouns:

I am a teacher.

Mary is a student. She is a student.

(5) To be — Negative Form with Contractions:

I am not a student. I am a teacher.

This is not a window. This is a book.

(6) To Be — Question Form:

Are we Americans or Mexicans? We are Mexicans.

This is a box. Is this a box?

(7) Simple Present Tense with Other Verbs:

Every day I walk to school.

John likes apples.

(8) Present Continuous Tense of "Regular" Verbs in Statements:

I am putting on my hat.

John and Henry are playing tennis.

(9) Present Continuous Tense — Negative form:

I am studying French now. I am studying English.

(10) Present Continuous Tense — Question Form:

It is raining now. Is it raining now?

(11) Simple Present Tense — Negative Form:

She does not walk to school with Helen. She walks to school with Kay.

(12) Simple Present Tense — Question Form:

Do you like to swim?

They live near the school. Do they live near the school?

(13) Past Tense of To Be in Statements, Negative and Question Forms:

John was absent from class yesterday.

John wasn't absent from class yesterday.

Was John absent from class yesterday?

(14) Past Tense of Regular Verbs:

They arrived in Washington last night.

(15) Past Tense of Irregular Verbs:

She left for school at eight o'clock.

e. Responses

Short Answers — Negative and affirmative forms with verbs taught:

Are you Mexican? No, I'm not.

Does she live near you? No, she doesn't.

Did they go with you? Yes, they did.

f. Miscellaneous Items

(1) Basic Information Questions:

Where do you live? Where does your father work? Where do you go to school? What is your name?

(2) Formulas of Courtesy, Agreement, Disagreement, Regret, Surprise, Excitement, Pleasure, etc.:

How do you do? Of course. I'm sorry. Really?

(3) Greetings and Leave-Takings

Hello! Good evening. See you tomorrow.

(4) Numbers — 1 to 1,000; names and uses; cardinal and ordinal; in addresses; dates, quantities, etc.

(5) Days of the Week.

(6) Months of the Year.

(7) Seasons of the Year.

(8) Colors and Clothing (seasonal changes, sizes, kinds, etc.).

(9) Parts of the Body.

(10) Animals — Domestic and Farm (most common ones).

(11) Telling Time (using expressions such as, "in the morning," "at night," "P.M.," etc.).

(12) Weight, Sizes, Measurements.

(13) Money.

3. VOCABULARY (CULTURAL) CONTENT

The vocabulary content presented in this curriculum guide corresponds with the guidelines given in Finocchiaro's and Bonomo's The

Foreign Language Learner: A Guide for Teachers. It is not intended to be an all-inclusive list, and should be adapted by the teacher to her own pupils' needs.

As with the different items of structure, all the vocabulary around a topic should not be taught at one time. Instead, the "spiral approach" should be used; in this method, the pupils are gradually introduced to new vocabulary or structure around a topic. Again, it is up to the teacher to decide how much information each pupil can deal with at one time.

a. Opposites of words taught:

up-down day-night

b. Introduction and Identifications:

(1) Greetings, Leave-Takings, Introductions.

(2) Identification of Self and Others.

(3) Address and Age.

c. The Classroom:

(1) Names and Locations of Parts of the room.

(2) Instructional Materials.

(3) Identification of Activities (reading, listening, repeating, etc.).

(4) The Program (hours for various subject areas; activities in and out of class).

(5) Common Classroom Expressions ("Please open your books," etc.).

d. The School:

(1) Name of School (and address).

(2) Location of Rooms and special places in the building (gym, clinic, office, restrooms, etc.).

(3) Rules and Regulations (fire drills, lunch hour, time of arrival, use of assigned smoking areas, etc.).

(16) Past Tense — Negative and Question Forms:

Our team won the game. Our team didn't win the game.

The plane left at two o'clock. Did the plane leave at two o'clock?

(17) Future Tense with Will in Statements, Negative and Question Forms:

We'll meet you at noon.

We won't meet you at noon.

Will we meet you at noon?

(18) Future Tense with To Be Going To in Statements, Negative and Question Forms:

They're going to move soon.
They're not going to move soon.
Are they going to move soon?

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b. Word Order

The place of the descriptive adjective before a noun, singular and plural:

She's a good student.

I have a red pencil.

They're good students.

c. Inflections

Plural Forms: regular and irregular forms:

One book - two books
One man - two men
This is a book. These are books.

d. Function Words

(1) Question words (Wh) such as: who, what, where, when, how, how much, how many, how long, which, why, what time:

When did you arrive in the United States?

How much does the dress cost?

(2) Prepositions — Modern American English presents a very limited number of prepositions in Level 1, but we recommend the following list to be taught at this level:

In, on, at, for, from, of, with, by, near, into, in front of, behind, beside, to, up, down, outside, inside, far from, a long way from, above, under, between, and about.

(3) Determiners (a, an, the, this, that, these, those):

a table - an hour

a book - the book

this car - these cars

(4) Conjunctions (coordinating): and, but, or:

You can study or read a book.

He is at school today, but not in class.

(5) Personal Pronouns:

Mary is in the library. She is in the library.

(6) It and They with neuter antecedents:

The book is on the table. It's on the table.

Classes begin at nine o'clock. They begin at nine o'clock.

(7) Possessive Adjectives:

John studies his English book.

Possive Form of Nouns:

The friend of Henry - Henry's friend

The desk of the students - the students' desk

(8) Personal Pronouns - Object Form:

I often see Mary on the bus. I often see her on the bus.

He walks to school with John and Henry. He walks to school with them.

(9) Use of There Is and There Are:

A book is on the table. There is a book on the table.

Introduce:

(1) Imperative Form of Verbs. Negative and question forms with contractions; all the different ways in English to make the imperative form more polite:

Please wait here. Wait here, please.

Will you please wait here. Wait here, will you, please?

Don't go. Please, don't go.

(2) Present Perfect Form of Verbs. Negative and question forms. Different uses, such as in:

Helen has written those letters.

They have lived in the same house for ten years.

They have lived in the same house since 1965.

(3) Past Perfect Tense. Negative and question forms; contractions with Have, Has, Had:

They had gone when we arrived.

He said that he'd not seen that movie.

Use of Say and Tell:

Mr. Smith said that he was busy.

Mr. Smith told us that he was busy.

(4) Past Continuous Tense. Negative and question forms;

It was raining when we got there.

Mary wasn't working when I called.

Was he talking to you?

(5) Use of To Have To. Negative and question forms in the present, past, and future tenses:

He must leave at one o'clock.

He has to leave at one o'clock.

(6) Two-Word Verbs Such as Take Off, Put On, Get On:

He is taking off his hat.

I have to get on the bus at this corner.

b. Inflections:

(1) Possessive Pronouns:

This pen belongs to her. This pen is hers.

Question form with the use of Whose:

This book is John's. Whose book is this?

(2) Reflexive Pronouns: Two forms: Reflexive Forms:

The little girl dresses herself every morning.

Emphatic use:

Mary herself will do the work.

Reflexive pronouns used with the preposition BY to give the meaning of alone:

I like to study by myself.

(3) Relative Pronouns Who and Which:

The boy who studies with me is my brother.
The book which is on the desk is John's.

(4) Count and Mass Nouns: Affirmative and negative uses of some quantity expressions such as: a lot of, some, a long way, too, much, many, any, far, either, few, little:

Give me the books. I need water.

I have some pencils in my pocket. I don't have any pencils in my pocket.

(5) Comparative and Superlative Form of Adjectives. Regular and irregular forms:

Helen is a beautiful girl. Helen is more beautiful than Mary.

Helen is the most beautiful girl in our class.

e. The Family:

(1) Names of Immediate Family Members.

(2) Relationships and Ages.

(3) Occupations of various members (should know parents' place of work and telephone number, in case of emergency).

(4) The home —

(a) Rooms and Their Uses.

(b) Furnishings.

(c) Daily activities (I get up at 7 o'clock, etc.).

f. The Immediate Community:

(1) Nonresidential Buildings (offices, movies, library, stores, etc.).

(2) Transportation Facilities (bus, taxi).

(3) Communication Facilities (telephone, mail, newspaper, radio, television).

(4) Consumer Services (stores, banks, etc.).

(5) Places of Recreational Interest (parks, libraries, community centers, movies, etc.).

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LEVEL II

1. THE SOUND SYSTEM

Review all the sounds and the two basic intonation patterns. Work on increased fluency in increasingly longer sentences, and on stress and rhythm.

Introduce:

a. Change in Stress When Noun Complements are Replaced by Pronouns:

He bought the groceries. He bought them.

b. Pronunciation of S and Z:

bus(s) - his (z)

eats (s) - comes (z)
what's (s) - he's (z)

c. Pronunciation of Final Voiced Consonants:

hurt - heard

back - bag

d. Pronunciation of Past Tense of Regular Verbs:

wait - waited

ask - asked

play - played

e. Minimal Pairs:

said - shed

bit - beet

pit - Pete

2. STRUCTURE

a. Verbal and Verb Phrases:

Review all verb forms introduced in Level I.

LEVEL III

1. THE SOUND SYSTEM

Review all the sounds and two basic intonation patterns. Work on increased fluency in progressively longer sentences, and on stress and rhythm.

Work on the pronunciation of minimal pairs, such as:

(s)	(ʃ)	(s)	(z)	(ʃ)	(tʃ)	(s)	(θ)	(ð)
sew	she	Sue	zoo	ship	chip	sing	thing	then
sell	shell	sip	zip	sip	chop	sink	think	those
(d)	(w)	(v)	(b)	(h)	(hw)	(w)	(Vowel Sound)	(h)
den	wet	vet	bet	hair	where	wear	ill	hill
doze	wail	veil	bail	hitch	which	witch	air	hair
(w)	(I)	(ɛ)	(æ)	(I)	(i)	(I)	(I)	(ɛ)
will	pin	pen	pan	rid	red	reed	tin	ten
wear	sit	set	sat	mitt	met	meet	bid	bed
(ɔ)	(ə)	(u)	(v)	(o)	(al)	(ɔI)		
ton	luck	Luke	look	toe	tie	toy		
bud	stud	stewed	stood	bowl	bile	boil		

2. STRUCTURE

Review the structures taught at Levels I and II, working on greater ease and fluency and for a more sustained response; that is, for more than one statement or question as a response to your question or statement.

a. Verbs and Verb Phrases:

Review all verb forms introduced in Levels I and II.

Introduce:

(1) Present Perfect Continuous; Negative and question forms:

He's showed him the school. He's been showing him the school. (And he's still showing it to him.)

Have you been walking? No, I haven't been walking.

(2) Future Continuous with Will: Negative and question forms:

They'll play here next week. They'll be playing here next week.

Will they be playing here next week?

(3) Equivalents for model auxiliaries Can, Should, Must, with contractions:

I can come tomorrow. I'll be able to come tomorrow. We should start back soon. We ought to start back soon. I must finish this homework now. I have to finish this homework now. I've got to finish this homework now.

(4) Passive Voice with Be; Negative and question forms; present and past tenses:

John made that box. That box was made by John.

Was that box made by Joe? No, that box wasn't made by Joe.

(5) Passive Voice with Perfect Tenses; Negative and question forms:

They must hold an assembly on Monday. An assembly must be held on Monday.

(6) The Passive Voice with Get: Negative and question forms:

They were married in June. They got married in June.

(7) The Past Tense for Will and Can (would and could); Negative and question forms:

They will build a new school. They said they would build a new school. I can take math some other time. I thought I could take math some other time.

(6) Adjectives and Adverbs: emphasis on Good and Well:

Joe is a slow speaker. Please speak slowly.

He is a good student. He speaks English well.

c. Function Words

(1) Use of Auxiliary Verbs. Negative and question form of Can Must, May, and Should. Difference in the use of May and Can.

May I go outside, please? Henry can drive a car.

He should go to the doctor soon. Should he go to the doctor soon?

Use of May to show possible future action:

I may visit you tonight.

(2) Verb followed by two complements (objects):

He gave her a book. He gave it to them.

d. Responses

(1) Short Answer Form. Affirmative and negative form with verbs taught:

Have you seen that movie? No, I haven't.

Were you listening? Yes, I was.

3. VOCABULARY (CULTURAL) CONTENT

a. Opposites of words taught at this level

b. The School:

(1) School activities (clubs, general organization, assembly programs, newspaper, games, etc.)

(2) Procedures and requirements (how to join a club or sign up for a sport; hours needed towards graduation, required courses, electives, etc.)

c. The Family:

(1) Names of more distant relatives and relationships.

(2) Activities and likes or dislikes of family members.

(3) The home —

(a) Meals (items, hours, customs of U. S. and other countries).

(b) Jobs and duties around the household.

(c) Rules and regulations around household.

d. The community:

(1) Transportation facilities —

(a) Bus schedule and how to read them.

(b) How and who to call for taxi service.

(c) Orientation of city (with maps, field trips, etc.).

(2) Communication facilities —

(a) The telephone (how to make local and long distance calls; how to take advantage of special rates; how to use yellow pages; etc.).

(b) The mail (location and nearest post office; different kinds of mail and services; etc.).

(c) Television (information on special bilingual programs; discussions of favorite programs; etc.).

(3) Consumer Services —

(a) Banks (different kinds of accounts; how to write a check; how to make deposits, withdrawals, etc.).

(b) Stores (kinds and names of products bought at each, etc.).

(4) Shopping —

(a) Money.

(b) Courtesy expressions.

(c) Expressions of quantity.

(5) Local government agencies (post office, police station, courthouse, unemployment office, etc.).

c. Inflections

(1) Relative Pronouns with and without prepositions:

The girl that I was talking to works in the library.

The girl to whom I was talking works in the library.

(2) Indefinite or Impersonal Pronouns, such as someone, anyone, no one, everyone, etc.:

I saw somebody in the room.

I didn't see anybody in the room.

I saw nobody in the room.

(3) Affirmative use of the Any-words in the sense of no matter who, no matter what. Also the No-words as the negative for the Any-words used in this sense:

Anyone (no matter who) can start a club in our school.

No one should leave school at lunchtime.

(4) They and You as Impersonal Pronouns:

They require math in the first year.

You can buy fruit in the supermarket.

(5) One and Ones as Pronouns:

There are two girls in my class. The one at the blackboard is a very good student.

d. Miscellaneous Items:

(1) Possessive Form with Time Words:

Tomorrow's lesson will be very interesting.

(2) Use of Of The after quantity words, such as some, many, much, etc.:

Some of the girls are here today.

A few of the books are torn.

I was in two of the plays last year.

LEVEL IV

1. THE SOUND SYSTEM

Review all the sounds and the two basic intonation patterns. Work on increased fluency in increasingly longer sentences, and on stress and rhythm.

Introduce:

a. Pronunciation as of the Medial S:

house (S) busy (Z)
nurse (S) doesn't (Z)

b. Pronunciation of contracted Forms as One Syllable or Two:

I'm (1) isn't (2)

He's (1) didn't (2)

c. Positive and Negative Stress Patterns:

We can see him later. (Affirmative)

We can't see him later. (Negative)

d. Intonation of Tag Endings:

(1) Confirmation of Some Fact — Falling Intonation

You can come, can't you?

(2) Asking a Question — Rising Intonation

You can come, can't you?

2. STRUCTURE

a. Verbs and Verb Phrases:

(1) Gerunds; use with verbs that are always followed by gerunds, and verbs that may be followed by either gerunds or infinitives:

Do you mind bringing me a menu?

He likes to study French. He likes studying French.

(8) The verbs Have, Got, and Make used a casual verbs:

He had the car repaired.

They got the gym decorated in time.

They made us take typing.

(9) Multiple-Word Verbs; verbs that cannot be separated from the word (preposition or adverb) that follows; verbs that can be separated from the following word; and verbs that must be separated when the object is a personal pronoun:

They're listening to the records.

He put on his raincoat. He put his raincoat on.

She turned on the light. She turned it on.

(10) Special uses of Won't and Shall:

I won't show Charles the school. I refuse to.

Shall we go to that movie tonight?

Shall I take math again next year?

b. Word Order:

(1) Prepositional Phrases as Indirect Objects:

He's showing Charles his school.

He's showing his school to him.

(2) The Infinitive after Adjectives; the use of It is with these adjectives; and the use of a prepositional phrase with For to give the subject of the Infinitive:

It's easy to find the store.

It's possible for us to find the store.

(3) The Infinitive of Purpose to answer the question Why:

Why did she go to the store? To get some milk.

(4) Position of Already and Yet in sentences with the verb To Be and other verbs:

They've already seen the gym.

They haven't seen the gym yet.

(5) Multiple Modifiers before the noun:

I bought several very pretty white dresses.

(6) Position of Noun Adjuncts:

She wore a very expensive winter coat.

(7) Prepositional Phrases and Clauses:

The books on the shelf are overdue.

The books that I'm putting on the shelf are new.

(8) Form and Position of Adverbs of time, place, and manner;

I leave my book in the locker at night.

She finished the book quickly.

(9) Position of Adverbs of Frequency with the verb to be and other verbs:

John is always busy.

I've never seen that classroom.

Have you ever studied algebra? No, I haven't ever studied algebra.

(10) Position of Still and Anymore with To Be and other verbs:

He's still talking to the teacher.

He isn't talking to the teacher anymore.

(11) Object Clauses after Present Tense Verbs; kinds of verbs the object clauses follow, and tense to be used with it:

I hope that she'll wait for me.

Our school is very different from yours.

I think that our school is very different from yours.

(12) Object Clauses after Past Tense Verbs:

He took geography. He said that he'd take geography.

We've seen the auditorium. I thought we'd seen the. . . .

(5) Special clubs representing ethnic backgrounds (Chinese-American Institute, the Hellenic Center, the Hispano-American Club, etc.)

(6) Popular sports in the community or city (participant or spectator)

(7) Traveling (means of transporation; favorite vacation spots in U. S. and other countries, etc.)

(8) Current events

d. Cross-Cultural Concepts (customs; fostering interchange of ideas):

(1) Greetings and leave-takings (with peers, elders, children)

(2) Foods (time for meals; types of restaurants; special types, etc.)

(3) Holidays (as they occur, if possible) — dates; gifts; visiting; greeting cards; etc.

(4) Dress (seasonal, formal, informal, special occasion, typical, or native, etc.)

(5) Dating and marriage (position of the woman in different societies)

(6) Consumer education (installment buying, credit borrowing, etc.)

(7) Social amenities in different situations

(8) Cultural heritage — heroes, history, music, literature, art forms, etc. (self-identity in a different society)

(9) Places of worship (norms and feasts of different religions)

(10) Government: its operations and services (immigration status, medicare, etc.)

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ADDITONAL ITEMS TO BE TAUGHT AT ANY LEVEL

a. Prepositions — basic to advanced

b. Use of No and Not

c. Use of articles (determiners)

d. Pronunciation of silent letters (as in "often," listen," etc.)

e. Use of Very and Too

f. Placing of accent

g. Abbreviations

h. Subjunctive with Wish

i. Homonyms

j. Opposites with prefix

k. Corresponding noun and adjective forms

l. Exclamatory form

m. Emphatic form

n. Use of So, Indeed, Of Course, Naturally

o. Difficult verbs: raise-rise; set-sit, lay-lie

p. Use of Despite, In Spite Of

q. Whichever, Whereever, Whatever

r. Punctuations

s. Spelling rules

Omission of That in adjective clauses where it is the object of the verb clause:

The machine (that) they're using is called a harvester.

Omission of That in clauses of result after So or Such:

He was so tired (that) he went right to sleep.

(11) Shortened Adverb Clauses:

Because he ran for reelection every two years, he had to make a lot of trips back home.

Running for reelection every two years, he had to make a lot of trips back home.

(12) Participial Phrases with Subjects:

He went home for the summer because the university was closed.

The university being closed he went home for the summer.

(13) The Perfect Participle:

He has to look for a job because he had stopped taking money from his family.

Having stopped taking money from his family, he had to look for a job.

(14) Sentence Connectors: several different groups (addition, warning, result, concession, illustration, etc.):

He was tired. He took some work home with him.

He was tired; nevertheless, he took some work home with him.

(15) Idiomatic expressions, such as:

go wrong	day off
get married	make a go of it
put through	take on
ship out	stopover
side benefits	in charge of
overseas	framework

3. VOCABULARY (CULTURAL) CONTENT

a. The School:

(1) Educational opportunities for advanced study (College and University orientation)

(2) Requirements or admission to institutions of higher learning (physical, educational, financial)

(3) Scholarships

(4) Training for specialized careers (vocational schools, business schools, medical schools, etc.)

(5) Adult education

b. The World of Work:

(1) Opportunities for employment after graduation (part-time and summer work also)

(2) Requirements of various types of employment

(3) Means of finding employment (agencies, letters, newspapers, governmental agencies, friends, etc.)

(4) Filling out forms (application for employment, social security, pension, etc.)

(5) Getting a job (dress and conduct at interview)

(6) Holding a job (punctuality, performance, human relationships)

(7) Labor laws, taxes, pension, rights, and responsibilities

(8) Specialized vocabulary

c. Leisure-Time Activities:

(1) Community facilities (YMCA, public pools, etc.)

(2) Hobbies — kinds (indoor and outdoor)

(3) Arts, crafts, dancing, sports (where to learn, cost, etc.)

(4) Private recreational facilities and clubs (location, special features, fees, or qualifications for admission, etc.)

THE ATLANTA PUBLIC SCHOOL SYSTEM
ESAA CULTURAL ADJUSTMENT PROGRAM

ESOL

Item

Modern American English, Level 1, Skillbook, Dixon: Regents Publishing Company.
World Book Encyclopedia, Inc.; Field Enterprises.
A Look at Prejudice and Understanding, Rebecca Anders; Crestwood House.
Mohamad Ali, The Greatest, Dorothy Schmitz; Crestwood House.
Evel Knelvel, Dorothy Schmitz; Crestwood House.
O. J. Simpson, Dorothy Schmitz; Crestwood House.
Jim Brown, Dorothy Schmitz; Crestwood House.
The Chinese in America, C. Jones; Crestwood House.
The Koreans in America, Hyung-Chan; Crestwood House.
The Negro in America, E. Spangler; Crestwood House.
Mary Bethune, Teacher with a Dream, L. Anderson; Garrard Publishing Co.
Ralph Bunche, Champion of Peace, J. Cornell; Garrard Publishing Co.
Roberto Clemente, Price of the Pirates, J. Borndfield; Garrard Publishing Co.
Coretta Scott King, L. Patterson; Garrard Publishing Co.
Paul Lawrence Dunbar, Black Poet Laureate, P. Schulz; Garrard Publishing Co.
Black Crusaders for Freedom, B. Wayne; Garrard Publishing Co.
New Goldern Dictionary, Bertha Parker; Golden Press.
Richard Scarry's Best Word Book Ever, R. Scarry; Golden Press.
Story Book Dictionary, R. Scarry; Goldern Press.
Goldern Dictionary, Walpole; Golden Press.
Webster's New Collegiate Dictionary; Georgia School Supply Co.
Webster's New Intermediate Dictionary; Georgia School Supply Co.
Webster's New Elementary Dictionary; Georgia School Supply Co.
Webster's Geographical Dictionary; Georgia School Supply Co.
Teaching Main Ideas; Georgia School Supply Co.
Outlining; Georgia School Supply Co.
Context Clues; Georgia School Supply Co.
Let's Write Series-Book I (Duplicating Bk) SE104; Georgia School Supply Co.
Let's Write Series-Book I (Duplicating Bk) SE105; Georgia School Supply Co.
Social Studies Unit for Indochinese Children; BABEL/BASTA Co.
State Hearings Handbook for Interpreters; Zieleke Publishing Company.
An Overview of the Navajo; Zieleke Publishing Company.
The Story of the Greeks in America; T. S. Dennison and Company.
Physical Science-Oakland; Bilingual Resource Center.
Breaking the Arrow-Oakland; Bilingual Resource Center.
Cities: Form & Function; Bilingual Resource Center.
First Grade Mathematics Teachers Handbook; Bilingual Resource Center.
Human Biology; Bilingual Resource Center.
How Maps and Globes Help Us; Bilingual Resource Center.
Looking at Life on Earth; Bilingual Resource Center.
ESAA Social Studies-Book 5 Chinese New Year; Bilingual Resource Center.
ESAA Social Studies-Book 6 Easter; Bilingual Resource Center.
ESAA Social Studies-Book 7 Ching, Ming; Bilingual Resource Center.
ESAA Social Studies-Book 8 King Fu; Bilingual Resource Center.
ESAA Social Studies-Book 9 Calligraphy; Bilingual Resource Center.
ESAA Social Studies-Book 10 Brush Painting; Bilingual Resource Center.

APPENDIX B

THE ATLANTA PUBLIC SCHOOL SYSTEM
ESAA CULTURAL ADJUSTMENT PROGRAM

SPANISH-S

Item

Mi primera Fonetica, Bishop and Mohrman; National Textbook Co.
Mi Cuaderno Workbooks, Book I, Elida Wills; National Textbook Co.
Mi Cuaderno Workbooks, Book II, Elida Wills; National Textbook Co.
Mi Cuaderno Workbooks, Book III, Elida Wills; National Textbook Co.
Una Mirada al Mundo-Libro VI, Gomez, Tejera, Pastor, Guzman; Laidlaw Brothers.
Espanol 6, Jose Logorbeu; Colegio San Jose.
Las Americas y sus Pueblos 5th Edition, Aurelio Perez Martines; Libreria Alma Mater.
El Viejo Mundo y sus Pueblos, Aurelio Perez Martinez; Libreria Alma Master.
Angus y el Gato, M. Flack; Doubleday and Co.
Cuckoo's Reward; El Premio del Cuco, D. Kowzel; Doubleday and Co.
El Primer Dia de Clases; Doubleday and Co.
Bilingual Mathematics: Complete Set Includes Eight Cassettes in Spanish F-17; Developmental Learning Materials Co.
The Metric System for Measurement: Per Spanish set (4 Filmstrips, 4 Cassettes) No. F-08; Developmental Learning Materials Co.
Science for the Elementary School Student. Complete Set (5 Books and 5 Teacher's Guides) U54; Developmental Learning Materials Co.
Grammar Series: Series of 15 Full-Color Bond Posters - Describes in details the parts of speech in Spanish; Macmillian Co.

How Maps and Globes Help Us; Bilingual Resource Center.
Jaruta; Bilingual Resource Center.
Bowl of Soup, Lunar New Year (English); Bilingual Resource Center.
Creation Myths; Bilingual Resource Center.
Bilingual Mathematics (English); Bilingual Resource Center.
Phonics Workbooks - 10 books; Bilingual Resource Center.
Parents Helping Children to Learn 30S/BP; Bilingual Resource Center.
The Fat Hens and the Skinny Chickens 17P; Bilingual Resource Center.
Stucent Workbook 44P; Bilingual Resource Center.
Teacher Guide 30P; Bilingual Resource Center.
Student Workbook 44P; Bilingual Resource Center.
Teacher Manual 144P; Bilingual Resource Center.
Teacher Manual 161P; Bilingual Resource Center.
Teacher Guide; Bilingual Resource Center.
ESAA Basal Readers-Book 1 -CSL-C; Bilingual Resource Center.
Book 2 - CSL - C; Bilingual Resource Center.
Book 3 - CSL - C; Bilingual Resource Center.
Book 4 - CSL - C; Bilingual Resource Center.
Book 5 - CSL - C; Bilingual Resource Center.
Book 6 - CSL - C; Bilingual Resource Center.
Book 7 - CSL - C; Bilingual Resource Center.
Book 8 - CSL - C; Bilingual Resource Center.
Book 9 - CSL - C; Bilingual Resource Center.
Book 10 - CSL - C; Bilingual Resource Center.
ESAA Basal Reader Workbooks - Workbook 1 Elementary C.; Bilingual Resource Center.
Workbook 2 Elem. C; Bilingual Resource Center.
Workbook 3 Elem. C; Bilingual Resource Center.
Workbook 4 Elem. C; Bilingual Resource Center.
Workbook 5 Elem. C; Bilingual Resource Center.
Workbook 6 Elem. C; Bilingual Resource Center.
Workbook 7 Elem. C; Bilingual Resource Center.
Workbook 8 Elem. C; Bilingual Resource Center.
ESAA Basal Reader Workbooks - Workbook 9 12P; Bilingual Resource Center.
Workbook 10 12P.; Bilingual Resource Center.
Story in California E/K 22#B/BP; Bilingual Resource Center.
Education Carpet; Developmental Learning Materials.
Bilingual Mathematics: Complete Set Includes Eight Cassetts in English F-18; Bilingual Resource Center.
Per English Set (4 Filmstrips, 4 Cassettes) F09; Bilingual Resource Center.
Bilingual/Bicultural Education Series: A Model for Bilingual Language Skill Building; Bilingual Resource Center.

THE ATLANTA PUBLIC SCHOOL SYSTEM
ESSA CULTURAL ADJUSTMENT PROGRAM

KOREAN

Item

Korean Bilingual Calligraphy-Student Workbook II; Bilingual Resource Center.
Korean Bilingual Calligraphy-Student Workbook III; Bilingual Resource Center.
Korean Bilingual Calligraphy-Student Workbook IV; Bilingual Resource Center.
Korean Bilingual Calligraphy-Student Workbook V; Bilingual Resource Center.
Korean Bilingual Calligraphy-Student Workbook VI; Bilingual Resource Center.
Korean Bilingual Calligraphy-Student Workbook VII; Bilingual Resource Center.
Korean Bilingual Calligraphy-Student Workbook VIII; Bilingual Resource Center.
Korean Bilingual Calligraphy-Student Workbook IX; Bilingual Resource Center.
Korean Bilingual Calligraphy-Student Workbook X; Bilingual Resource Center.
Korean/English Language Proficiency Test; Bilingual Resource Center.
Korean Language Materials, Korean Reading and Korean Writing; Bilingual Resource Center.
Lesson Plans, Charts, Vocabulary Cards, Language Master Cards, Cassettes, Worksheets, and Activities; Bilingual Resource Center.
Let's Speak Korean-Korean as a Second Language; Bilingual Resource Center.
Korean Math-CTBS Test-Formula Q, Level 3; Bilingual Resource Center.
Korean Identity and Culture-Lost in the System: Korean School Children; Bilingual Resource Center.
Acculturation of Korean Residents in Georgia, Dong-Chang Lee; Asian American Bilingual Center.
All About Us-Writing Worksheets for Korean Calligraphy; Bilingual Resource Center.
Korean as a Second Language; Bilingual Resource Center.
Poksuli's Story E/K; Bilingual Resource Center.

THE ATLANTA PUBLIC SCHOOL SYSTEM
ESAA CULTURAL ADJUSTMENT PROGRAM

CHINESE

Item

Introduction to Chinese Music; Bilingual Resource Center.
History of the Chinese in America; Bilingual Resource Center.
History of the Chinese in America (Visual); Bilingual Resource Center.
Chinese (Cantonese) as a Second Language-reader I; Bilingual Resource Center.
Chinese (Cantonese) as a Second Language-reader II; Bilingual Resource Center.
Chinese Folk Tales for Children; Bilingual Resource Center.
A Collection of Chinese American Reading and Learning Activities; Bilingual Resource Center.
Chinese Oral Proficiency Test. Comprehensive Chinese Exam.; Bilingual Resource Center.
Chinese Curriculum Guide, Level I; Bilingual Resource Center.
Chinese Curriculum Guide, Level II; Bilingual Resource Center.
Games and Activities for Chinese Level II & II; Bilingual Resource Center.
Chinese Reading Readiness Guide. A Chinese Reading Readiness Guide; Bilingual Resource Center.
Mathematics I (Jr. H) - C; Bilingual Resource Center.
Mathematics II (Jr. H) - C; Bilingual Resource Center.

THE ATLANTA PUBLIC SCHOOL SYSTEM
ESAA CULTURAL ADJUSTMENT PROGRAM

JAPANESE

Item

Japanese and Japanese American Activities for the Classroom; Bilingual Resource Center.
1st Grade Social Studies (Japanese Bil./Bic. Program); Bilingual Resource Center.

VIETNAMESE

Item

Job-Getting Ideas for Vietnamese and Other Newcomers: (Adult Educ.); BABEL/BASTA.
Standard Pronouncing English-Vietnamese Dictionary, Le Ba Kong; Zieleke Publishing Co.
The Wolf at the Door (English/Vietnamese); Zieleke Publishing Co.
Vietnamese-English Dictionary; Zieleke Publishing Co.
Getting to Know the Vietnamese and Their Culture (English), Vuoung Gia Thuy; Ungar Publishing Co.
Dictionary of Synonyms and Antonyms; Zieleke Publishing Co.
California Driver's Handbook (Vietnamese), Serrano; Kansas State Department of Education.
Recreational Reading in Vietnamese (English) Guide; BABEL/BASTA.
A Colloquium on the Vietnamese Language (English); BABEL/BASTA.
English Pronunciation Exercises for Speakers of Vietnamese (English); Zieleke Publishing Co.
Educational Administrator Series: On Assimilating Vietnamese and Cambodian Students into U.S. Schools; BABEL/BASTA.
Meeting English Language Needs of Indochinese Students; Zieleke Publishing Co.